Safety Test Report

Product Name: **Base Band Unit**

Product Model: **BBU3910, BBU3910M**

Report Number: **SYBH(A)07809642**

Reliability Laboratory of Huawei Technologies Co., Ltd.

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Notice

1. The laboratory has passed the accreditation by China National Accreditation Service for Conformity Assessment (CNAS). The accreditation number is L0310.
2. The laboratory (Reliability Lab of Huawei Technologies Co., Ltd) is also named as “Global Compliance and Testing Center of Huawei Technologies Co., Ltd”, the both names have coexisted since 2009.
3. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
4. The test report is invalid if there is any evidence of erasure and/or falsification.
5. The test report is only valid for the test samples.
6. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
7. If any question about this report, please contact the laboratory (PublicGCTC@huawei.com).

Applicant:	Huawei Technologies Co., Ltd.
Address:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Product Name:	Base Band Unit
Product Model:	BBU3910, BBU3910M

Date of Receipt Sample:	2021-07-20
Start Date of Test:	2021-07-20
End Date of Test:	2021-07-20

Test Result: Pass

Approved by Senior Engineer:	2021-07-22	Yang Xinglei	Yang Xinglei
	Date	Name	Signature

Prepared by:	2021-07-21	Gala Lv	Gala Lv
	Date	Name	Signature

Modification Record

No.	Last Report No.	Modification Description
1	N/A	First report
2	SYBH(A)04937129	Added new boards WD22UBBPe1, WD22UBBPe3, WD26UBBPe1, WD26UBBPe3, WD24UBBPe1, WD24UBBPe3, WD22UBBPe10, WD22UBBPe11, WD22UBBPe16, WD22UMPTe1, WD22UMPTe4, WD22UMPTe5, WD24UMPTe1, WD24UMPTe4, WD24UMPTe5, WD26UMPTe1, WD26UMPTe4, WD26UMPTe5, WD2E1FANE, WD2MUPEUD2, WD24UBFD, WD24UPEG to BBU3910, BBU3910M.
3	SYBH(A)05188153	Added new boards WD22UBBPg2,WD22UBBPg2a, WD22UBBPg3, WD22UBBPg4, WD22UBBPg3a, WD22UBBPg3BT, WD27UBBPg3c, WD27UBBPg2ac, WD26UBBPg2ac, WD22UMPTg1, WD22UMPTg2, WD22UMPTg2BT, WD22UMPTg3, WD24UMPTg1, WD24UMPTg2, WD24UMPTg3, WD24UMPTg5, WD24UMPTgs, WD28UBBPe, WD28UBBPe1, WD22UBBPe1, WD22UBBPe2, WD22UBBPe3, WD22UBBPe4, WD22UMPTe1, WD22UMPTe2, WD22UMPTes, WD22LBBPD5, QWL1WBBPf5 to BBU3910, BBU3910M.
4	SYBH(A)05449976	Added new boards WD24UBBPg3, WD24UBBPg2, WD24UBBPg3a, WD24UBBPg2a, WD28UBBPg3c, WD28UBBPg2ac, WD26UBBPg3TF, WD22UBBPg3TF, WD26UBBPg2aTF, WD22UBBPg2aTF, WD2DUBPG2AUK, WD2DUBBPG2UK, WD23UBBPg1, WD23UBBPg1, WD26UBBPg2a, WD26UBBPg2, WD26UMPTg2tf, WD24UBBPe6c, WD22UBBPe5, WD22UBBPea, WD22UBBPeas, WD26UBBPe6c, WD24UBBPea, WD26UBBPea, WD23UBBPeb, WD23UBBPex2, WD22UBBPe5, WD22UBBPe6, WD22UBBPe18, WD25UMPTe5, WD23UMPTe, WD23UMPTe4, WD23UMPTe5, WD21USCUb16, WD23USCUb11, WD21USCUb16, QWL1WBBPf6 to BBU3910, BBU3910M.
5	SYBH(A)05624156	Added new boards WD24UBBPg4c2, WD24UBBPg3TF, WD24UMPTg5, WD24UMPTg1, WD24UMPTg2, WD24UMPTg3, WD24UMPTgs, WD23UMPTe5c, WD23USCUb11 to BBU3910, BBU3910M.
6	SYBH(A)05779708	Added new boards WD2E2FANE, WD2E3FANE, WD2MUPEUd, WD2M1UEIU, WD2DUBBPG3A0, WD2DUBBPG3L0, WD26UMPTg5, WD26UMPTg3, WD24UMPTga1, WD24UMPTga2, WD24UMPTga5, WD24UMPTga3, WD2DUMPTGA10, WD2DUMPTGA11, WD2DUMPTGA20, WD2DUMPTGA21, WD2DUMPTGA50, WD2DUMPTGA30, WD2DUMPTGA31, WD22UBBPe8, WD22UBBPe9, WD21UBBPei, WD21UBBPep, WD21LCOP, WD23UBBPd9, WD22UBBPf1, WD22UBBPf3, WD22UMPTb2, WD22UMPTb2, WD23UMPTb3, WD23UMPTb4, WD24UMPTb4, WD26UMPTb4B, WD23UMPTb9, WD23UMPTb9, WD24UMPTe1, WD24UMPTe3, WD24UMPTe4, WD22UMPTe, WD22UMPTe3, WD22UMPTe5, WD22UMPTe2, WD22UMPTe3, WD21USCUb18, WD22UELP, WD22UTRPC, WD22GTMUc, WD22GTMUc to BBU3910, BBU3910M.

6	SYBH(A)05932210	Added new boards WD24UBBPg4, WD24UBBPg1, WD2DUBBPG1C0, WD29UBBPg1, WD24UMPTg2tf, WD2DUMPTG2TH, WD23UMPTe1c, WD23UMPTe2c to BBU3910, BBU3910M
7	SYBH(A)06212059	Add new boards WD25UBBPg1, WD2DUBBPG1BT to BBU3910, BBU3910M.
8	SYBH(A)06486944	Add new boards WD2CUBBPg2, WD29UBBPg1, WD27UBBPg1, WD28UBBPg1, WD29UBBPe18, WD2DUBBPG3B0, QWL1WBBPf5 to BBU3910, BBU3910M.
9	SYBH(A)06818150	Add new boards WD23UMPTe2, WD23UMPTe3 to BBU3910, BBU3910M.
10	SYBH(A)06844119	Add new boards WD29UMPTg1, WD29UMPTg2, WD29UMPTg3, WD29UMPTg5, WD2BUBBPg3c, WD2BUBBPg3, WD2BUBBPg2ac, WD2BUBBPg2a, WD2BUBBPg2c, WD2BUBBPg2, WD2DUMPTE180, WD2DUMPTE190 to BBU3910, BBU3910M.
11	SYBH(A)06991721	Add new boards WD22UBBPg1a, WD2DUBBPG1A0, WD25UMPTga1, WD25UMPTga2, WD25UMPTga3, WD25UMPTga5 to BBU3910, BBU3910M.
12	SYBH(A)07133446	Add new boards WD2FUBBPg3, WD2GUBBPg3, WD2FUBBPg2a, WD2GUBBPg2a, WD2HUBBPg2a, WD2JUBBPg2a, WD2FUBBPg2, WD2GUBBPg2, WD2KUBBPg1a, WD2LUBBPg1a to BBU3910, BBU3910M.
13	SYBH(A)07245009	Add new boards WD2JUBBPg2, WD2HUBBPg2, WD2JUBBPg1a, WD2HUBBPg1a, WD2AUBBPe3, WD2BUBBPe3 to BBU3910, BBU3910M.
14	SYBH(A)07375068	Add new boards WD28UMPTe5, WD28UMPTe1, WD28UMPTe2, WD28UMPTe3 to BBU3910, BBU3910M.
15	SYBH(A)07538920	Add new boards WD2MUBBPg1a, WD2NUBBPg1a, WD2PUBBPg1a, WD2MUBBPg2, WD2NUBBPg2, WD2PUBBPg2, WD2MUBBPg2a, WD2NUBBPg2a, WD2PUBBPg2a to BBU3910, BBU3910M.
16	SYBH(A)07584606	Add new boards WD29UMPTb4, WD28UMPTb4, WD2YUBBPg2a, WD2LUBBPg2a, WD2KUBBPg2a, WD2OUBBPg2a, WD2IUBBPg2a, WD2CUBBPg2a to BBU3910, BBU3910M.
17	SYBH(A)07758170	Add new boards WD2DUMPTg1, WD2DUMPTg2, WD2DUMPTg3, WD2DUMPTg5, WD2EUMPTg5 to BBU3910, BBU3910M.

TEST REPORT
IEC 62368-1and/or EN 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number ..... :	SYBH(A)07809642
Date of issue..... :	2021-07-22
Total number of pages ..... :	191
Testing laboratory ..... :	Reliability Laboratory of Huawei Technologies Co., Ltd.
Address ..... :	No.2222,Xin Jinqiao Road, Pudong New Area, Shanghai, 201206, P.R.C
Applicant's name ..... :	Huawei Technologies Co., Ltd.
Address ..... :	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Manufacturer's name..... :	Huawei Technologies Co., Ltd.
Address ..... :	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Test specification:	
Standard ..... :	IEC 62368-1:2014 (Second Edition) EN 62368-1:2014+A11:2017
Test procedure ..... :	ISO/IEC 17025
Non-standard test method..... :	N/A
Test Report Form No.....:	IEC62368_1D
TRF modified by. ..... :	Huawei
Master TRF..... :	2015-06

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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test Item description ..... :	Base Band Unit
Trade Mark ..... :	Huawei
Manufacturer ..... :	Huawei Technologies Co.,Ltd.

Model/Type reference.....:	BBU3910, BBU3910M
Rating .....:	⎓-48 V, 25 A Max.

List of Attachments (including a total number of pages in each attachment):

Attachment 1: European Group differences and national differences according to EN 62368-1:2014+A11:2017 (11 pages)

Attachment 2: System block diagram (2 pages)

Attachment 3: Photo documentation (68 pages)

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
The submitted samples were tested and found to comply with the requirements of: IEC 62368-1:2014(Second Edition) EN 62368-1:2014/A11:2017	Reliability Laboratory of Huawei Technologies Co., Ltd; No.2222,Xin Jinqiao Road, Pudong New Area, Shanghai, 201206, P.R.C

Summary of compliance with National Differences:

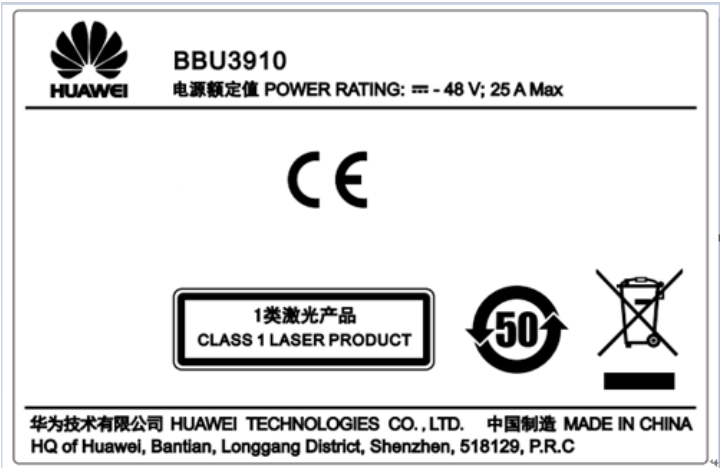
List of countries addressed

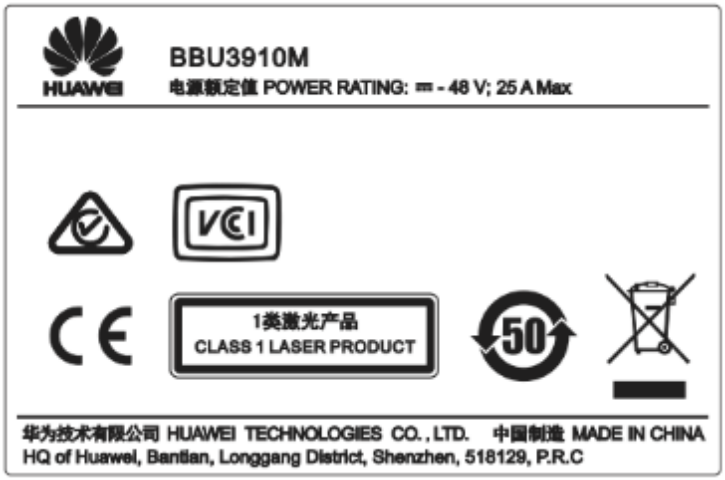
☒ The product fulfils the requirements of EN 62368-1:2014+A11:2017;

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

BBU3910
电源额定值 POWER RATING: ⎓ - 48 V; 25 A Max
This device complies with Part 15 of the FCC Rules.Operation is subject to the following two conditions: (1) this device may not cause harmful interference,and (2) this device must accept any interference received,including interference that may cause undesired operation.
Complies With 21 CFR Chapter I,Subchapter J
CAN ICES-3(B)/NMB-3(B)
1类激光产品
CLASS 1 LASER PRODUCT
CIDF15000116
Intertek
4001377
华为技术有限公司 HUAWEI TECHNOLOGIES CO., LTD. 中国制造 MADE IN CHINA
HQ of Huawei, Bantian, Longgang District, Shenzhen, 518129, P.R.C


BBU3910
电源额定值 POWER RATING: ⎓ - 48 V; 25 A Max
1类激光产品
CLASS 1 LASER PRODUCT
华为技术有限公司 HUAWEI TECHNOLOGIES CO., LTD. 中国制造 MADE IN CHINA
HQ of Huawei, Bantian, Longgang District, Shenzhen, 518129, P.R.C


BBU3910M
电源额定值 POWER RATING: ⎓ - 48 V; 25 A Max
1类激光产品
CLASS 1 LASER PRODUCT
华为技术有限公司 HUAWEI TECHNOLOGIES CO., LTD. 中国制造 MADE IN CHINA
HQ of Huawei, Bantian, Longgang District, Shenzhen, 518129, P.R.C

TEST ITEM PARTICULARS:	
Classification of use by ..... :	☐ Ordinary person ☒ Instructed person ☒ Skilled person ☐ Children likely to be present
Supply Connection ..... :	☐ AC Mains ☐ DC Mains ☒ External Circuit - not Mains connected - ☒ ES1 ☐ ES2 ☐ ES3
Supply Tolerance % ..... :	☐ +10%/-10% ☐ +20%/-15% ☐ +____%/ -____% ☐ None ☒ -38.4 V d.c. - -57 V d.c.
Supply Connection – Type ..... :	☐ pluggable equipment type A - ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☒ permanent connection ☐ mating connector ☐ other:_____
Considered current rating of protective device as part of building or equipment installation ..... :	____30__ A; Installation location: ☒ building; ☐ equipment
Equipment mobility ..... :	☐ movable ☐ hand-held ☐ transportable ☐ stationary ☒ for building-in ☐ direct plug-in ☐ rack-mounting ☒ wall-mounted
Over voltage category (OVC) ..... :	☐ OVC I ☐ OVC II ☐ OVC III ☐ OVC IV ☒ other: _____
Class of equipment ..... :	☒ Class I ☐ Class II ☐ Class III
Access location ..... :	☒ restricted access location ☐ N/A
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maximum operating ambient . :	___55__ °C
IP protection class ..... :	☐ IPX0 ☒ IP_20__
Power Systems ..... :	☒ TN ☐ TT ☐ IT - ____ V_{L-L}
Altitude during operation (m) ..... :	☐ 2000 m or less ☒ __4000____ m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ _____ m
Mass of equipment (kg) ..... :	☒ ____15____ kg
POSSIBLE TEST CASE VERDICTS:	
- test case does not apply to the test object ..... :	N/A

- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)

GENERAL REMARKS:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☐ point is used as the decimal separator.

This Test Report covers test results for IEC 62368-1: 2014 (Second Edition).
Where a requirement in IEC 62368-1 addresses the same requirement/principle in IEC 60065 and/or IEC 60950-1, compliance with the IEC 62368-1 requirements covers compliance with the same requirement/principle in IEC 60065 and/or IEC 60950-1, as indicated.

The complete background/rationale behind the considerations in this TRF is outlined in 108/575/INF, IEC TC 108 position related to TRFs associated with the transition of IEC 60065 and IEC 60950-1 to IEC 62368-1.

Use of this TRF is intended to allow for a smooth transition from the legacy standards, IEC 60065 and IEC 60950-1, to the state-of-art requirements for safety of audio/video, information and communication technology equipment, IEC 62368-1.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) ..... :	☐ **Yes** ☒ **Not applicable**

GENERAL PRODUCT INFORMATION:

General product information:

The BBU3910 is an indoor baseband unit. It provides physical interfaces for connection with the BSC and RRU. It performs centralized management (OM and Signalling processing) of the entire base station system and provides reference clock for the system.
The maximum operating temperature is 55°C.
Class 1 laser provided inside the equipment.

Slot16	Slot 0	Slot 4	Slot 18
	Slot 1	Slot 5	
	Slot 2	Slot 6	Slot 19
	Slot 3	Slot 7	

Support slot sketch

FANe	UBBPg3	UBBPe9s	UPEUd
	UBBPg3	UBBPe9s	

	UBBPg4	UMPTg3	UPEUd
	UBBPg4	UMPTg3	

Test Configuration1 (TC1)

FANe	UBBPg2a	UBBPg2a	UPEUd
	UBBPg2a	UBBPg2a	
	UBBPg2a	UMPTg3	UPEUd
	UBBPg2a	UMPTg3	

Test Configuration2 (TC2)

FANe	UBBPe	UBBPe	UPEUd
	UBBPe	UBBPe	
	UBBPe	UMPTe	UPEUd
	UBBPe	UMPTe	

Configuration 3

FANe	UBBPg2	UBBPg2	UPEUd
	UBBPg2	UBBPg2	
	UBBPg2	UMPTg	UPEUd
	UBBPg2	UMPTg	

Configuration 4

FANe	LBBPD	LBBPD	UPEUd
	WBBPf	WBBPf	
	LBBPD	UMPTe	UPEUd
	WBBPf	UMPTe	

Configuration 5

FANe	UBBPg	UBBPg	UPEUd
	UBBPg	UBBPg	
	UBBPg	UMPTg	UPEUd
	UBBPg	UMPTe	

Configuration 6

FANe	UBBPg	UBBPe	UPEUd
	UBBPg	UBBPg	
	UBBPg	USCU	UPEUd
	UBBPg	UMPTe	

Configuration 7

FANe	UTRP	UELP	UEIU
	UBBPe	GTMU	

	UBBPf		UPEUd
	UBBPd	UMPTb	

Configuration 8

FANe	UBBPg	UBBPg	UPEUd
	UBBPg	UBBPg	
	UBBPg	UMPTg	UPEUd
	UBBPg	UMPTe	

Configuration 9

Board list:

SAFETY BBU3910, BBU3910M				
Board brief name	Hardware version	Board full name	BOM code	Support slot
FANe	VER.A	WD2E1FANE	02311CHK	16
FANe	VER.A	WD2E2FANE	02311EFM	16
FANe	VER.A	WD2E3FANE	02311JJN	16
UPEUd	03022WSP VER.B 03021KBJ VER.C	WD2MUPEUD2	02310SFM	18, 19
UPEUd	03025TCC VER.B 03021KBJ VER.C	WD2MUPEUd	02310GHD	18, 19
UEIU	03021KBJ Ver.C 03020HPT Ver.E	WD2M1UEIU	02315639	18,19
UBBPe	VER.C	WD22UBBPe9s	03023JUU	0~5
UBBPg	VER.B	WD22UBBPg2	03025MLN	0~5
UBBPg	VER.B	WD22UBBPg2a	03025WMJ	0~5
UBBPg	VER.B	WD22UBBPg3	03025MLS	0~3
UBBPg	VER.B	WD22UBBPg4	03025NDS	0~3
UBBPg	VER.B	WD22UBBPg3a	03026ABX	0~3
UBBPg	VER.B	WD22UBBPg2	03058626	0~5
UBBPg	VER.B	WD22UBBPg2a	03058707	0~5
UBBPg	VER.B	WD22UBBPg3	03058627	0~3
UBBPg	VER.B	WD22UBBPg4	03058628	0~3
UBBPg	VER.B	WD22UBBPg3a	03058754	0~3
UBBPg	VER.B	WD22UBBPg3BT	03059349	0~3
UBBPg	VER.A	WD27UBBPg3c	03026VGV	0~3
UBBPg	VER.A	WD27UBBPg2ac	03026WSB	0~5
UBBPg	VER.B	WD26UBBPg2ac	03026TKR	0~5
UBBPg	VER.B	WD24UBBPg3	03027GCN	0~3
UBBPg	VER.A	WD2FUBBPg3	03029MFC	0~3
UBBPg	VER.A	WD2GUBBPg3	03029MFG	0~3

UBBPg	VER.A	WD2FUBBPg2a	03029MFB	0~5
UBBPg	VER.A	WD2GUBBPg2a	03029MFF	0~5
UBBPg	VER.A	WD2HUBBPg2a	03029NUN	0~5
UBBPg	VER.A	WD2JUBBPg2a	03029NUP	0~5
UBBPg	VER.A	WD2FUBBPg2	03029MFD	0~5
UBBPg	VER.A	WD2GUBBPg2	03029MFH	0~5
UBBPg	VER.A	WD2YUBBPg2a	0302014532	0~5
UBBPg	VER.A	WD2LUBBPg2a	0302014943	0~5
UBBPg	VER.A	WD2KUBBPg2a	0302014944	0~5
UBBPg	VER.A	WD2OUBBPg2a	0302014942	0~5
UBBPg	VER.A	WD2IUBBPg2a	0302014945	0~5
UBBPg	VER.A	WD2CUBBPg2a	0302014946	0~5
UBBPg	VER.A	WD2BUBBPg3	03028BLG	0~3
UBBPg	VER.A	WD2BUBBPg3c	03027LWC	0~3
UBBPg	VER.A	WD2BUBBPg2c	03027LWD	0~5
UBBPg	VER.A	WD2BUBBPg2	03028BLF	0~5
UBBPg	VER.A	WD2BUBBPg2a	03028BLH	0~5
UBBPg	VER.A	WD2BUBBPg2ac	03028BLK	0~5
UBBPg	VER.C	WD2CUBBPg2	03027WSP	0~5
UBBPg	VER.B	WD24UBBPg2	03027GCM	0~5
UBBPg	VER.B	WD22UBBPg1a	03029GMP	0~5
UBBPg	VER.A	WD2KUBBPg1a	03029QYK	0~5
UBBPg	VER.A	WD2LUBBPg1a	03029QYL	0~5
UBBPg	VER.B	WD2DUBBPG1A0	03050BYF	0~5
UBBPg	VER.B	WD24UBBPg3a	03027GCQ	0~3
UBBPg	VER.B	WD24UBBPg2a	03027GCP	0~5
UBBPg	VER.A	WD24UBBPg4c2	03026UUK	0~3
UBBPg	VER.A	WD24UBBPg4	03026UUK	0~3
UBBPg	VER.B	WD28UBBPg3c	03026JAU	0~3
UBBPg	VER.B	WD28UBBPg2ac	03027EKX	0~5
UBBPg	VER.B	WD26UBBPg3TF	03027FXN	0~3
UBBPg	VER.B	WD24UBBPg3TF	03027FXP	0~3
UBBPg	VER.B	WD22UBBPg3TF	03059500	0~3
UBBPg	VER.B	WD26UBBPg2aTF	03027FXR	0~5
UBBPg	VER.B	WD22UBBPg2aTF	03059501	0~5
UBBPg	VER.B	WD2DUBPG2AUK	03059601	0~5
UBBPg	VER.B	WD2DUBBPG2UK	03059602	0~5
UBBPg	VER.B	WD23UBBPg1	03026STD	0~5

UBBPg	VER.B	WD23UBBPg1	03059443	0~5
UBBPg	VER.B	WD2JUBBPg2	03029NUT	0~5
UBBPg	VER.B	WD2HUBBPg2	03029NUQ	0~5
UBBPg	VER.B	WD2JUBBPg1a	03029NUW	0~5
UBBPg	VER.B	WD2HUBBPg1a	03029NUU	0~5
UBBP	VER.B	WD25UBBPg1	03028KRS	0~5
UBBP	VER.B	WD2DUBBPG1BT	03050AAL	0~5
UBBPg	VER.B	WD24UBBPg1	03027YMP	0~5
UBBPg	VER.B	WD2DUBBPG1C0	03059888	0~5
UBBPg	VER.A	WD29UBBPg1	03027LVX	0~5
UBBPg	VER.B	WD29UBBPg1	03027LVX	0~5
UBBPg	VER.B	WD27UBBPg1	03027LVV	0~5
UBBPg	VER.B	WD28UBBPg1	03027LVW	0~5
UBBPg	VER.B	WD26UBBPg2a	03027GLP	0~5
UBBPg	VER.B	WD26UBBPg2	03027GLQ	0~5
UBBPg	VER.B	WD2DUBBPG2C0	03059727	0~5
UBBPg	VER.B	WD2DUBBPG3A0	03059823	0~3
UBBPg	VER.B	WD2DUBBPG3L0	03059844	0~3
UBBPg	VER.B	WD2DUBBPG3B0	03050BKS	0~3
UBBPg	VER.B	WD2MUBBPg1a	03029UUA	0~5
UBBPg	VER.B	WD2NUBBPg1a	03029UUB	0~5
UBBPg	VER.B	WD2PUBBPg1a	03029VRF	0~5
UBBPg	VER.B	WD2MUBBPg2	03029UTX	0~5
UBBPg	VER.B	WD2NUBBPg2	03029UTY	0~5
UBBPg	VER.B	WD2PUBBPg2	03029VRE	0~5
UBBPg	VER.B	WD2MUBBPg2a	03029UTV	0~5
UBBPg	VER.B	WD2NUBBPg2a	03029UTW	0~5
UBBPg	VER.B	WD2PUBBPg2a	03029VRD	0~5
UMPTg	VER.C	WD22UMPTg1	03025PLY	6~7
UMPTg	VER.C	WD22UMPTg2	03025PMA	6~7
UMPTg	VER.C	WD22UMPTg3	03025PMB	6~7
UMPTg	VER.C	WD22UMPTg1	03058541	6~7
UMPTg	VER.C	WD22UMPTg2	03058542	6~7
UMPTg	VER.C	WD22UMPTg2BT	03059352	6~7
UMPTg	VER.C	WD22UMPTg2BT	03059353	6~7
UMPTg	VER.C	WD22UMPTg3	03058543	6~7
UMPTg	VER.B	WD24UMPTg1	03026MXQ	6~7
UMPTg	VER.B	WD24UMPTg2	03026MXR	6~7

UMPTg	VER.B	WD24UMPTg3	03026SBQ	6~7
UMPTg	VER.B	WD24UMPTg5	03026ELC	6~7
UMPTg	VER.C	WD24UMPTg1	03026MXQ	6~7
UMPTg	VER.C	WD24UMPTg2	03026MXR	6~7
UMPTg	VER.C	WD24UMPTg3	03026SBQ	6~7
UMPTg	VER.C	WD24UMPTg5	03026ELC	6~7
UMPTg	VER.B	WD29UMPTg5	03027LWE	6~7
UMPTg	VER.B	WD29UMPTg1	03027LWF	6~7
UMPTg	VER.B	WD29UMPTg2	03028FHA	6~7
UMPTg	VER.B	WD29UMPTg3	03027LWG	6~7
UMPTg	VER.B	WD2DUMPTg1	0302012873	6~7
UMPTg	VER.B	WD2DUMPTg2	0302012875	6~7
UMPTg	VER.B	WD2DUMPTg3	0302012877	6~7
UMPTg	VER.B	WD2DUMPTg5	0302012880	6~7
UMPTg	VER.B	WD2EUMPTg5	0302012883	6~7
UMPTg	VER.C	WD24UMPTgs	03026SBR	6~7
UMPTg	VER.A	WD26UMPTg2tf	03027FUX	6~7
UMPTg	VER.A	WD26UMPTg2tf	03059508	6~7
UMPTg	VER.C	WD24UMPTg2tf	03027GNC	6~7
UMPTg	VER.C	WD2DUMPTG2TH	03059508	6~7
UMPTg	VER.C	WD26UMPTg5	03026WCQ	6~7
UMPTg	VER.C	WD26UMPTg3	03026WCP	6~7
UMPTg	VER.A	WD24UMPTga1	03027BNQ	6~7
UMPTg	VER.B	WD25UMPTga1	03029BAS	6~7
UMPTg	VER.A	WD24UMPTga2	03027BNR	6~7
UMPTg	VER.B	WD25UMPTga2	03029BAT	6~7
UMPTg	VER.A	WD24UMPTga5	03027BNT	6~7
UMPTg	VER.B	WD25UMPTga5	03029BAV	6~7
UMPTg	VER.A	WD24UMPTga3	03027BNS	6~7
UMPTg	VER.B	WD25UMPTga3	03029BAU	6~7
UMPTg	VER.A	WD2DUMPTGA10	03059606	6~7
UMPTg	VER.A	WD2DUMPTGA11	03059753	6~7
UMPTg	VER.A	WD2DUMPTGA20	03059607	6~7
UMPTg	VER.A	WD2DUMPTGA21	03059754	6~7
UMPTg	VER.A	WD2DUMPTGA50	03059608	6~7
UMPTg	VER.A	WD2DUMPTGA30	03059609	6~7
UMPTg	VER.A	WD2DUMPTGA31	03059756	6~7
UBBPe	VER.C	WD22UBBPe1	03023GYA	0~5

UBBPe	VER.C	WD22UBBPe3	03023GYC	0~5
UBBPe	VER.C	WD26UBBPe1	03026FXS	0~5
UBBPe	VER.C	WD26UBBPe3	03026BWE	0~5
UBBPe	VER.C	WD24UBBPe1	03026FXT	0~5
UBBPe	VER.C	WD24UBBPe3	03024YYJ	0~5
UBBPe	VER.C	WD22UBBPe10	03057881	0~5
UBBPe	VER.C	WD22UBBPe11	03057882	0~5
UBBPe	VER.C	WD22UBBPe16	03058324	0~5
UBBPe	VER.A	WD28UBBPe	03026XJL	0~5
UBBPe	VER.A	WD28UBBPe1	03027CWQ	0~5
UBBPe	VER.A	WD22UBBPe1	03057152	0~5
UBBPe	VER.A	WD22UBBPe2	03057153	0~5
UBBPe	VER.A	WD22UBBPe3	03057154	0~5
UBBPe	VER.A	WD22UBBPe4	03057155	0~5
UBBPe	VER.C	WD22UBBPe1	03057152	0~5
UBBPe	VER.C	WD22UBBPe2	03057153	0~5
UBBPe	VER.C	WD22UBBPe3	03057154	0~5
UBBPe	VER.C	WD22UBBPe4	03057155	0~5
UBBPe	VER.B	WD24UBBPe6c	03026ULW	0~5
UBBPe	VER.A	WD22UBBPe5	03023GYE	0~5
UBBPe	VER.A	WD22UBBPea	03023GYG	0~5
UBBPe	VER.A	WD22UBBPeas	03023JUV	0~5
UBBPe	VER.A	WD26UBBPe6c	03026ULY	0~5
UBBPe	VER.B	WD24UBBPea	03027CWR	0~5
UBBPe	VER.A	WD26UBBPea	03027CWS	0~5
UBBPe	VER.B	WD23UBBPeb	03024SLB	0~5
UBBPe	VER.A	WD23UBBPex2	03058774	0~5
UBBPe	VER.A	WD22UBBPe5	03057156	0~5
UBBPe	VER.A	WD22UBBPe6	03057157	0~5
UBBPe	VER.A	WD22UBBPea	03057161	0~5
UBBPe	VER.A	WD22UBBPeas	03057162	0~5
UBBPe	VER.B	WD22UBBPe18	03027GLB	0~5
UBBPe	VER.B	WD22UBBPe18	03059510	0~5
UBBPe	VER.B	WD29UBBPe18	03027LWB	0~5
UBBPe	VER.A	WD22UBBPe8	03057158	0~5
UBBPe	VER.A	WD22UBBPe9	03057159	0~5
UBBPe	VER.A	WD21UBBPei	03023PSE	0~5
UBBPe	VER.A	WD21UBBPep	03023PSF	0~5

UBBPe	VER.A	WD21LCOP	03024KXL	0~5
UBBPe	VER.A	WD2AUBBPe3	03029FRB	0~5
UBBPe	VER.A	WD2BUBBPe3	03029MMW	0~5
UBBPd	VER.C	WD23UBBPd9	03023HSJ	0~5
UBBPf	VER.A	WD22UBBPf1	03024RHJ	0~5
UBBPf	VER.A	WD22UBBPf3	03025UQQ	0~5
UMPTb	VER.D	WD22UMPTb2	03057163	6~7
UMPTb	VER.D	WD22UMPTb2	03057166	6~7
UMPTb	VER.D	WD23UMPTb3	03057389	6~7
UMPTb	VER.C	WD23UMPTb4	03022KCK	6~7
UMPTb	VER.B	WD24UMPTb4	03023XPC	6~7
UMPTb	VER.D	WD26UMPTb4B	03025ESW	6~7
UMPTb	VER.B	WD29UMPTb4	0302015045	6~7
UMPTb	VER.B	WD28UMPTb4	0302012168	6~7
UMPTb	VER.B	WD23UMPTb9	03055702	6~7
UMPTb	VER.B	WD23UMPTb9	03055864	6~7
UMPTe	VER.B	WD22UMPTe1	03057305	6~7
UMPTe	VER.B	WD22UMPTe4	03023TQT	6~7
UMPTe	VER.B	WD22UMPTe5	03023TQU	6~7
UMPTe	VER.B	WD24UMPTe1	03026FXY	6~7
UMPTe	VER.B	WD24UMPTe4	03026FYB	6~7
UMPTe	VER.B	WD24UMPTe5	03025AYB	6~7
UMPTe	VER.A	WD28UMPTe5	03029UFE	6~7
UMPTe	VER.A	WD28UMPTe1	03029UFH	6~7
UMPTe	VER.A	WD28UMPTe2	03029UFG	6~7
UMPTe	VER.A	WD28UMPTe3	03029UFF	6~7
UMPTe	VER.B	WD26UMPTe1	03026FXX	6~7
UMPTe	VER.B	WD26UMPTe4	03026FYA	6~7
UMPTe	VER.B	WD26UMPTe5	03026FYC	6~7
UMPTe	VER.B	WD22UMPTe1	03057251	6~7
UMPTe	VER.B	WD22UMPTe2	03057252	6~7
UMPTe	VER.B	WD22UMPTes	03057308	6~7
UMPTe	VER.C	WD25UMPTe5	03025DXY	6~7
UMPTe	VER.C	WD23UMPTe	03025DXX	6~7
UMPTe	VER.C	WD23UMPTe4	03025DXW	6~7
UMPTe	VER.C	WD23UMPTe5	03025DCY	6~7
UMPTe	VER.A	WD23UMPTe5c	03026VVC	6~7
UMPTe	VER.A	WD23UMPTe1c	03028BAC	6~7

UMPTe	VER.A	WD23UMPTe2c	03028BAE	6~7
UMPTe	VER.A	WD24UMPTe1	03026FXY	6~7
UMPTe	VER.A	WD24UMPTe3	03027VAN	6~7
UMPTe	VER.A	WD24UMPTe4	03026FYB	6~7
UMPTe	VER.B	WD22UMPTe	03022VPA	6~7
UMPTe	VER.C	WD22UMPTe3	03057253	6~7
UMPTe	VER.C	WD22UMPTe5	03057256	6~7
UMPTe	VER.C	WD22UMPTe2	03057306	6~7
UMPTe	VER.B	WD23UMPTe2	03058685	6~7
UMPTe	VER.C	WD22UMPTe3	03057307	6~7
UMPTe	VER.B	WD23UMPTe3	03058687	6~7
UMPTe	VER.A	WD2DUMPTE190	03050BSW	6~7
UMPTe	VER.A	WD2DUMPTE180	03050BSV	6~7
USCU	VER.A	WD21USCUb16	03026VKL	0~7
USCU	VER.A	WD23USCUb11	03059568	0~7
USCU	VER.A	WD21USCUb16	03059569	0~7
USCU	VER.A	WD23USCUb11	03027MSG	0~7
USCU	VER.A	WD21USCUb18	03027QLS	0~7
LBBPD	VER.A	WD22LBBPD5	03024EDY	0~5
WBBPf	VER.A	QWL1WBBPf5	03025QUE	0~5
WBBPf	VER.C	QWL1WBBPf5	03025QUE	0~5
WBBPf	VER.B	QWL1WBBPf6	03025QUF	0~5
UELP	VER.B	WD22UELP	03020FED	0~5
UTRP	VER.B	WD22UTRPC	03021FLT	0~5
GTMU	VER.B	WD22GTMUc	03023BVF	6~7
GTMU	VER.B	WD22GTMUc	03031MXR	6~7
FANe	VER.A	WD2E1FANE	02311CHK	16
UPEUd	03025TCC VER.B 03021KBJ VER.C	WD2MUPEUD2	02310SFM	18, 19
FANe	VER.A	WD24UBFD	03025CNK	16
UPEUd	VER.B	WD24UPEG	03025TCC	18, 19

UBBPe is WD22UBBPe9s.

UMPTg is WD22UMPTg1 or WD22UMPTg2 or WD22UMPTg3 or WD22UMPTg2BT or WD24UMPTg1 or WD24UMPTg2 or WD24UMPTg3 or WD24UMPTgs or WD24UMPTg5 or WD26UMPTg2tf or WD26UMPTg3 or WD26UMPTg5 WD24UMPTga1 or WD24UMPTga2 or WD24UMPTga3 or WD24UMPTga5 or WD2DUMPTGA10 or WD2DUMPTGA11 or WD2DUMPTGA20 or WD2DUMPTGA21 or WD2DUMPTGA50 or WD2DUMPTGA30 or WD2DUMPTGA31 or WD24UMPTg2tf or WD2DUMPTG2TH or WD29UMPTg1 or WD29UMPTg2 or WD29UMPTg3 or WD29UMPTg5 or WD25UMPTga1 or WD25UMPTga2 or

WD25UMPTga3 or WD25UMPTga5 or WD2DUMPTg1, WD2DUMPTg2, WD2DUMPTg3, WD2DUMPTg5, WD2EUMPTg5..

Test used WD22UMPTg3, the power is same. WD22UMPTg2 is identical to board WD22UMPTg1 except GNSS Card. WD22UMPTg3 is identical to board WD22UMPTg1 except BDS Multi Mode Card. WD22UMPTg2BT is identical to board WD22UMPTg2 except name. WD24UMPTg5 replaced some components on the basis of WD22UMPTg3, the power is same. WD24UMPTg2 is identical to board WD24UMPTg1 except GNSS Card. WD24UMPTg3 is identical to board WD24UMPTg1 except BDS Multi Mode Card. WD24UMPTg5 is identical to board WD24UMPTg1 except BDS Multi Mode Card. WD24UMPTgs is identical to board WD24UMPTg2 except name. WD26UMPTg2tf is identical to board WD24UMPTg2 except name. WD26UMPTg3 is identical to board WD22UMPTg3 except name. WD26UMPTg5 is identical to board WD22UMPTg5 except name.

WD24UMPTga5 replaced some components on the basis of WD24UMPTg5, The power consumption of the WD24UMPTga5 is less than the power consumption of the WD24UMPTg5. WD24UMPTga1 is identical to board WD24UMPTga5 except BDS Multi Mode Card, WD24UMPTga2 is identical to board WD24UMPTga5 except except GNSS Multi Mode Card, WD24UMPTga3 is identical to board WD24UMPTga5 except BDS Card.

WD2DUMPTGA10/ WD2DUMPTGA11 is identical to board WD24UMPTga1 except model name.

WD2DUMPTGA20/ WD2DUMPTGA21 is identical to board WD24UMPTga2 except model name.

WD2DUMPTGA30/ WD2DUMPTGA31 is identical to board WD24UMPTga3 except model name.

WD2DUMPTGA50 is identical to board WD24UMPTga5 except model name. WD24UMPTg2tf/ WD2DUMPTG2TH is identical to board WD24UMPTg2 except model name.Test data, critical component, photo refer to WD22UMPTg3.

WD29UMPTg5 is identical to board WD24UMPTg5 that changed the FPGA, PHY chip, battery, diode, level converter, satellite card, and it's not affected in safety performance.

WD29UMPTg3 is identical to board WD29UMPTg5 only changed the satellite card.

WD29UMPTg2 is identical to board WD29UMPTg5 only changed the satellite card.

WD29UMPTg1 is identical to board WD29UMPTg5 only deleted the satellite card.

All test data, critical component refer to WD24UMPTg5.

WD25UMPTga1 is identical to board WD24UMPTga1 only modified the DDR channel routing.

WD25UMPTga2 is identical to board WD24UMPTga2 only modified the DDR channel routing.

WD25UMPTga3 is identical to board WD24UMPTga3 only modified the DDR channel routing.

WD25UMPTga5 is identical to board WD24UMPTga5 only modified the DDR channel routing.

WD2DUMPTg1, WD2DUMPTg2, WD2DUMPTg3, WD2DUMPTg5, WD2EUMPTg5 are identical to board WD29UMPTg2 only modified the DDR channel and satellite card, and it's not affected in safety performance.

UBBPg is WD22UBBPg2 or WD22UBBPg2a or WD22UBBPg3 or WD22UBBPg3a or WD22UBBPg4 or WD22UBBPg3BT or WD27UBBPg3c or WD27UBBPg2ac or WD26UBBPg2ac or WD24UBBPg2 or WD24UBBPg2a or WD24UBBPg3 or WD24UBBPg3a or WD28UBBPg3c or WD28UBBPg2ac or WD26UBBPg3TF or WD22UBBPg3TF or WD26UBBPg2aTF or WD22UBBPg2aTF or WD2DUBPG2AUK or WD2DUBBPG2UK or WD23UBBPg1 or WD26UBBPg2a or WD26UBBPg2 or WD24UBBPg4c2 or WD24UBBPg3TF or WD2DUBBPG3A0 or WD2DUBBPG3L0 or WD24UBBPg1 or WD2DUBBPG1C0 or

WD29UBBPg1 or WD24UBBPg4 or WD2BUBBPg3c or WD2BUBBPg3 or WD2BUBBPg2ac or WD2BUBBPg2a or WD2BUBBPg2c or WD2BUBBPg2 or WD22UBBPg1a or WD2DUBBPG1A0 or WD2FUBBPg3, WD2GUBBPg3, WD2FUBBPg2a, WD2GUBBPg2a, WD2HUBBPg2a, WD2JUBBPg2a, WD2FUBBPg2, WD2GUBBPg2, WD2KUBBPg1a, WD2LUBBPg1a,or WD2JUBBPg2 or WD2HUBBPg2 or WD2JUBBPg1a or WD2HUBBPg1a or WD2MUBBPg1a, WD2NUBBPg1a, WD2PUBBPg1a, WD2MUBBPg2, WD2NUBBPg2, WD2PUBBPg2, WD2MUBBPg2a, WD2NUBBPg2a, WD2PUBBPg2a or WD2YUBBPg2a, WD2LUBBPg2a, WD2KUBBPg2a, WD2OUBBPg2a, WD2IUBBPg2a, WD2CUBBPg2a.

Test used WD22UBBPg2a/ WD22UBBPg3/ WD22UBBPg4/ WD24UBBPg2a/ WD24UBBPg3a/ WD23UBBPg1, WD22UBBPg2 is identical to board WD22UBBPg2a except model name and WD22UBBPg3a is identical to board WD22UBBPg3 except model name. WD22UBBPg3BT is identical to board WD22UBBPg3 except name. WD27UBBPg2ac replaced some components on the basis of WD22UBBPg2a, the power is same. WD27UBBPg3c replaced some components on the basis of WD22UBBPg3, the power is same. WD26UBBPg2ac replaced FPGA on the basis of WD22UBBPg2, the power is same. WD28UBBPg3c replaced some components on the basis of WD22UBBPg3, the power is same. WD28UBBPg2ac replaced some components on the basis of WD22UBBPg2a, the power is same. WD26UBBPg2aTF/ WD2DUBPG2AUK / WD2DUBBPG2UK is identical to board WD22UBBPg2a except model name and WD26UBBPg3TF is identical to board WD22UBBPg3 except model name. WD24UBBPg2 is identical to board WD24UBBPg2a except model name. WD24UBBPg3 is identical to board WD24UBBPg3a except model name. WD26UBBPg2/ WD26UBBPg2a is identical to board WD26UBBPg2ac except model name. WD2DUBBPG2C0 is identical to board WD26UBBPg2a except model name.WD24UBBPg4c2 replaced some components on the basis of WD22UBBPg4, the power is same.WD24UBBPg3TF is identical to board WD24UBBPg3 except model name. WD2DUBBPG3A0 is identical to board WD24UBBPg3TF except model name. WD2DUBBPG3L0is identical to board WD24UBBPg3 except model name. WD24UBBPg1/WD2DUBBPG1C0 is identical to board WD23UBBPg1 except model name. WD29UBBPg1 replaced some components on the basis of WD23UBBPg1, the power is same. WD24UBBPg4 is identical to board WD24UBBPg4c2 except model name.Test data, critical component, photo refer to WD22UBBPg2a/ WD22UBBPg3/ WD22UBBPg4/ WD24UBBPg2a/ WD24UBBPg3a/ WD23UBBPg1.

WD25UBBPg1, WD2DUBBPG1BT are identical to board WD23UBBPg1 except model name. Test data, critical component, photo refer to WD23UBBPg1. WD2DUBBPG3B0 is identical to board WD24UBBPg2a except model name. Test data, critical component, photo refer to WD24UBBPg2a.

WD2CUBBPg2 is identical to board WD24UBBPg2 only the power circuit, clock circuit, and backplane rate different and the safety performance is not affected. WD29UBBPg1 (VER.B) is identical to board WD29UBBPg1 (VER.A), the difference lies in the power supply circuit and clock circuit. WD27UBBPg1, WD28UBBPg1 are identical to board WD29UBBPg1 only changed FPGA vendors. All test data, critical component refer to WD24UBBPg2 and WD24UBBPg3.

WD2BUBBPg3 is identical to board WD24UBBPg3, the change points are as follows: power circuit, phase-locked loop, flash, diode, and level converter, and it's not affected in safety performance.

WD2BUBBPg3c is identical to board WD2BUBBPg3 except board name.

WD2BUBBPg2ac is identical to board WD2BUBBPg2a except board name.

WD2BUBBPg2a is identical to board WD2BUBBPg2 except DDR.
WD2BUBBPg2c is identical to board WD2BUBBPg2 except board name.
WD2BUBBPg2 is identical to board WD2BUBBPg3 except that removed a ASIC chip from the board.
All test data, critical component refer to WD24UBBPg3.
WD22UBBPg1a is identical to board WD24UBBPg2 except board name.
WD2DUBBPG1A0 is identical to board WD24UBBPg2 except board name.
WD2FUBBPg3 is identical to board WD24UBBPg3, the change points are as follows: Logic chip, power circuit, and clock circuit, and it's not affected in safety performance.
WD2GUBBPg3 is identical to board WD2FUBBPg3 except logic chip.
WD2FUBBPg2a is identical to board WD2FUBBPg3 except that removed a ASIC chip from the board.
WD2GUBBPg2a is identical to board WD2FUBBPg2a except Logic chip.
WD2HUBBPg2a is identical to board WD2FUBBPg2a except board name.
WD2JUBBPg2a is identical to board WD2GUBBPg2a except board name.
WD2FUBBPg2 is identical to board WD2FUBBPg2a except board name.
WD2GUBBPg2 is identical to board WD2GUBBPg2a except board name.
WD2KUBBPg1a, WD2LUBBPg1a are identical to board WD22UBBPg1a except the logic and high-speed link , it's not affected in safety performance.
WD2JUBBPg2 is replaced some components on the basis of WD2GUBBPg2, it's not affected in safety performance, WD2HUBBPg2 is replaced some components on the basis of WD2FUBBPg2, it's not affected in safety performance, WD2JUBBPg1a is replaced some components on the basis of WD2LUBBPg1a, it's not affected in safety performance, WD2HUBBPg1a is replaced some components on the basis of WD2KUBBPg1a, it's not affected in safety performance.
WD2MUBBPg1a has minor changes based on WD2JUBBPg1a, it's not affected in safety performance.
WD2NUBBPg1a is identical to board WD2MUBBPg1a except the logic chip, it's not affected in safety performance.
WD2PUBBPg1a is identical to board WD2MUBBPg1a except the logic chip, it's not affected in safety performance.
WD2MUBBPg2 has minor changes based on WD2MUBBPg1a, it's not affected in safety performance.
WD2NUBBPg2 is identical to board WD2MUBBPg2 except the logic chip, it's not affected in safety performance.
WD2PUBBPg2 is identical to board WD2MUBBPg2 except the logic chip, it's not affected in safety performance.
WD2MUBBPg2a has minor changes based on WD2MUBBPg2, it's not affected in safety performance.
WD2NUBBPg2a is identical to board WD2MUBBPg2a except the logic chip, it's not affected in safety performance.
WD2PUBBPg2a is identical to board WD2MUBBPg2a except the logic chip, it's not affected in safety performance.
WD2YUBBPg2a is identical to board WD2FUBBPg2a, the change points are as follows: DDR, PCB and clock circuit, it's not affected in safety performance.

WD2LUBBPg2a, WD2KUBBPg2a are identical to board WD2YUBBPg2a except the logic chip, it's not affected in safety performance.
WD2OUBBPg2a is identical to board WD2YUBBPg2a except board name and the BOM, it's not affected in safety performance.
WD2IUBBPg2a is identical to board WD2LUBBPg2a except board name and the BOM, it's not affected in safety performance.
WD2CUBBPg2a is identical to board WD2KUBBPg2a except board name and the BOM, it's not affected in safety performance.

UPEUd is WD2MUPEUd2 or WD2MUPEUd2 (WD24UPEG) or WD2MUPEUd; WD2MUPEUd identical to board WD2MUPEUd2 (WD24UPEG) except model name.
FANe is WD2E1FANe or WD2E1FANe (WD24UBFD) or WD2E2FANE or WD2E3FANE; WD2E2FANE / WD2E3FANE identical to board WD2E1FANe except model name.
UEIU is WD2M1UEIU.

UBBPd is WD23UBBPd9. Test used WD23UBBPd9.The power consumption of the WD23UBBPd9 is less than the power consumption of the WD24UBBPe6c.

UBBPe is WD22UBBPe1 or WD22UBBPe3 or WD24UBBPe1 or WD24UBBPe3 or WD26UBBPe1 or WD26UBBPe3 or WD22UBBPe10 or WD22UBBPe11 or WD22UBBPe16 or WD22UBBPe2 or WD22UBBPe4 or WD28UBBPe or WD28UBBPe1 or WD24UBBPe6c or WD24UBBPea or WD22UBBPe5 or WD22UBBPe6 or WD22UBBPea or WD22UBBPeas or WD26UBBPe6c or WD26UBBPea or WD23UBBPeb or WD23UBBPex2 or WD22UBBPe18 or WD22UBBPe8 or WD22UBBPe9 or WD21UBBPei or WD21UBBPep or WD21LCOP or WD29UBBPe18 or WD2AUBBPe3 or WD2BUBBPe3.
Test used WD22UBBPe3/ WD24UBBPe3/ WD24UBBPe6c, because WD22UBBPe1 is identical to board WD22UBBPe3 except 2*DDR3, WD24UBBPe1 is identical to board WD24UBBPe3 except 2*DDR3, WD26UBBPe1 is identical to board WD22UBBPe1 except model name, WD26UBBPe3 is identical to board WD22UBBPe3 except model name, WD22UBBPe10/ WD22UBBPe11/ WD22UBBPe16 is identical to board WD24UBBPe3 except model name. WD22UBBPe2 is identical to board WD22UBBPe1 except model name. WD22UBBPe4 is identical to board +WD22UBBPe3 except model name. WD28UBBPe replaced some components on the basis of WD24UBBPe3, the power is same. WD28UBBPe1 is identical to board WD28UBBPe except 2*DDR3. WD24UBBPea/ WD23UBBPeb/ WD23UBBPex2 is identical to board WD24UBBPe6c except model name. WD22UBBPe5 replaced some components on the basis of WD24UBBPe6c, the power is same. WD22UBBPe6/WD22UBBPea/WD22UBBPeas/WD26UBBPe6c/ WD26UBBPea is identical to board WD22UBBPe5 except model name. WD22UBBPe18 is identical to board WD23UBBPg1 except model name. WD22UBBPe8 is identical to board WD26UBBPe3 except model name. WD22UBBPe9 is identical to board WD22UBBPe5 except model name. WD21UBBPei replaced some components on the basis of WD22UBBPe3, the power is same. WD21UBBPep replaced some components on the basis of WD22UBBPe5. WD21LCOP is identical to board WD22UBBPe9 except model name. Test data, critical component, photo refer to WD22UBBPe3/ WD24UBBPe3/ WD24UBBPe6c.

WD29UBBPe18 is identical to board WD29UBBPg1 only indicator output modes different.
WD2AUBBPe3 is replaced some components on the basis of WD22UBBPe3, it's not affected in safety performance, WD2BUBBPe3 is replaced some components on the basis of WD2AUBBPe3, it's not affected in safety performance.

UBBPf is WD22UBBPf1 or WD22UBBPf3. Test used WD22UBBPf1. The power consumption of the WD22UBBPf1 is less than the power consumption of the WD22UBBPg2. WD22UBBPf3 replaced some components on the basis of WD22UBBPf1, the power is same.

LBBPD is WD22LBBPD5. WD22LBBPD5 is identical to board WD28UBBPe except model name.
WBBPf is QWL1WBBPf5 or QWL1WBBPf6. QWL1WBBPf5 is identical to board WD28UBBPe1 except model name. QWL1WBBPf6 is identical to board WD24UBBPe6c except model name. QWL1WBBPf5 (Ver.C) is identical to board WD28UBBPe1 (Ver.A) except version name.

UMPTb is WD22UMPTb2 or WD23UMPTb4 or WD23UMPTb3 or WD24UMPTb4 or WD26UMPTb4B or WD23UMPTb9 or WD28UMPTb4 or WD29UMPTb4. Test used WD22UMPTb2. The power consumption of the WD22UMPTb2 is less than the power consumption of the WD24UMPTe5.
WD23UMPTb3/WD23UMPTb4/WD24UMPTb4/WD26UMPTb4B replaced some components on the basis of WD22UMPTb2, the power is same. WD23UMPTb9 is identical to board WD24UMPTb4 except model name. WD28UMPTb4, WD29UMPTb4 changed PCB routing and the clock circuit, replaced FPGA and CPLD on the basis of WD26UMPTb4B, and the power is not affected. All test data, critical component refer to WD26UMPTb4B.

UMPTe is WD22UMPTe1 or WD22UMPTe4 or WD22UMPTe5 or WD24UMPTe1 or WD24UMPTe4 or WD24UMPTe5 or WD26UMPTe1 or WD26UMPTe4 or WD26UMPTe5 or WD22UMPTe2 or WD22UMPTes or WD25UMPTe5 or WD23UMPTe5 or WD23UMPTe4 or WD23UMPTe or WD23UMPTe5c or WD24UMPTe1(VER.A) or WD24UMPTe3 or WD24UMPTe4(VER.A) or WD22UMPTe or WD22UMPTe3 or WD23UMPTe1c or WD23UMPTe2c or WD23UMPTe2 or WD23UMPTe3 or WD2DUMPTE180 or WD2DUMPTE190 or WD28UMPTe5 or WD28UMPTe1 or WD28UMPTe2 or WD28UMPTe3. Test used WD22UMPTe5/ WD24UMPTe5, because WD22UMPTe1 is identical to board WD22UMPTe5 except BDS Multi Mode Card, WD22UMPTe4 is identical to board WD22UMPTe5 except GNSS Card, WD26UMPTe1 is identical to board WD22UMPTe1 except model name, WD26UMPTe4 is identical to board WD22UMPTe4 except model name, WD26UMPTe5 is identical to board WD22UMPTe5 except model name. WD22UMPTe2 is identical to board WD22UMPTe4 except model name.WD22UMPTes is identical to board WD22UMPTe4 except model name. WD25UMPTe5 replaced some components on the basis of WD22UMPTe5, the power is same. WD25UMPTe5 is identical to board WD25UMPTe5 except BDS Multi Mode Card, WD23UMPTe4 is identical to board WD25UMPTe5 except GNSS Card, WD23UMPTe is identical to board WD25UMPTe5 except BDS Multi Mode Card. WD23UMPTe5c replaced some components on the basis of WD24UMPTe5, the power is same. WD24UMPTe1(VER.A) is identical to board WD23UMPTe5c except BDS Multi Mode Card, WD24UMPTe3 is identical to board WD23UMPTe5c except BDS Multi Mode Card, WD23UMPTe4(VER.A) is identical to board WD23UMPTe5c except GNSS Card. WD22UMPTe is identical to board WD22UMPTe1 except model name. WD22UMPTe3 is identical to board WD23UMPTe5 except model name. WD23UMPTe1c is identical to board WD23UMPTe5c except BDS Multi Mode Card, WD23UMPTe2c is identical to board WD23UMPTe5c except GNSS Card.Test data, critical component, photo refer to WD22UMPTe5/ WD24UMPTe5. WD23UMPTe2

compared with the WD22UMPTe2 (03057306), the hardware and platform software are the same, but the service software is different. The power consumption of the safety compliance device is reduced, which does not affect the safety performance. All test data, critical component refer to WD22UMPTe2. WD23UMPTe3 compared with the WD22UMPTe3 (03057307), the hardware and platform software are the same, but the service software is different. The power consumption of the safety compliance device is reduced, which does not affect the safety performance. All test data, critical component refer to WD22UMPTe3. WD2DUMPTE180 is identical to board WD24UMPTga2 except board name. WD2DUMPTE190 is identical to board WD24UMPTga3 except board name. WD28UMPTe5 replaced some components on the basis of WD24UMPTe5, the power is the same. WD28UMPTe1 based on WD28UMPTe5 deleted the satellite card. WD28UMPTe2 based on WD28UMPTe5 replace the satellite card with a 6T satellite card. WD28UMPTe3 is identical to board WD28UMPTe5 except board name. All test data, critical component refer to WD24UMPTe5.

UELP is WD22UELP.
GTMU is WD22GTMUc.The power consumption of the WD22GTMUc is less than the power consumption of the WD24UMPTga5.

UTRP is WD22UTRPC. The power consumption of the WD22UTRPC is less than the power consumption of the WD24UBBPe6c.

USCU is WD21USCUb16 or WD23USCUb11 or WD21USCUb18.Test used WD21USCUb16, because WD23USCUb11 is identical to board WD21USCUb16 except model name. WD21USCUb18 is identical to board WD21USCUb16 except BDS Multi Mode Card.

we add new nameplate BBU3910M according to this update.
At the same time, add new FANe WD2E2FANE/WD3E3FANE, which this two fan boards are the same to WD2E1FANE except name.

Model Differences –

N/A

Additional application considerations – (Considerations used to test a component or sub-assembly) –

This report is to promote the ability of checking the sample whether or not comply with the requirements of IEC 62368-1:2014(Second Edition) and EN 62368-1:2014/A11:2017. At the same time promote the test ability of IEC 62368-1:2014(Second Edition) and EN 62368-1:2014/A11:2017. And most test items were just to prove the test ability of Standard of IEC 62368-1:2014(Second Edition) and EN 62368-1:2014/A11:2017.

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1	
Source of electrical energy	**Corresponding classification (ES)**
Input circuit	ES1
FE/GE port	ES1
USB port	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	**Corresponding classification (PS)**
Input circuit and internal circuit	PS3
FE/GE port	PS1
USB port	PS1
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol	
Source of hazardous substances	**Corresponding chemical**
N/A	N/A
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2	
Source of kinetic/mechanical energy	**Corresponding classification (MS)**
Edges and corners	MS1
Wall Mounting (>7kg, height>2m)	MS3
Equipment mass	MS2
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	**Corresponding classification (TS)**
External Surface Enclosure	TS2

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	**Corresponding classification (RS)**
Laser ports	RS1

ENERGY SOURCE DIAGRAM
Indicate which energy sources are included in the energy source diagram. Insert diagram below
☒ **ES** ☒ **PS** ☒ **MS** ☒ **TS** ☒ **RS**

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	**Possible Hazard**			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Only ES1 energy source	-	-	-	-
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
Input circuit	PS3	Comply with 6.3	Fire Enclosure	N/A
PCB	PS3: Internal Circuits	Comply with 6.3	V-1 or better	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
-	-	-	-	-
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Instructed person	Mounting Height >2m (MS3)	N/A	N/A	Comply with 8.7
Instructed person	MS2: equipment mass	N/A	N/A	Comply with 8.7
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Instructed person	Internal Part (TS3)	N/A	N/A	Mechanical Enclosure
Skilled person	Enclosure (TS3)	N/A	N/A	N/A (Skilled safeguard)
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Laser ports	RS1	N/A	Indicative safety protection	N/A

-	-	-	-	-

Supplementary Information:

(1) See attached energy source diagram for additional details.

(2) “N” – Normal Condition; “A” – Abnormal Condition; “S” Single Fault

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies (IEC 60065, 3.4) & (IEC 60950-1, 1.5.1)		P
4.1.2	Use of components (IEC 60065, 3.4, 14.1) & (IEC 60950-1, 1.5.2)	(See appended table 4.12)	P
4.1.3	Equipment design and construction (IEC 60065, 3.1) & (IEC 60950-1, 1.3.2)		P
4.1.15	Markings and instructions.....: (IEC 60065, 5.1) & (IEC 60950-1, 1.7)	(See Annex F)	P
4.4.4	Safeguard robustness		P
4.4.4.2	Steady force tests.....: (IEC 60065, 9.1.1.7 c), 13.3.1) & (IEC 60950-1, 4.2.4)	(See Annex T.2, T.5) T.5 is applicable	P
4.4.4.3	Drop tests .....: (IEC 60065, 12.1.5) & (IEC 60950-1, 4.2.6)		N/A
4.4.4.4	Impact tests .....: (IEC 60065, 12.1.4) & (IEC 60950-1, 4.2.5)	(See Annex T.6)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests .....: (IEC 60950-1, 4.2.3)		N/A
4.4.4.6	Glass Impact tests.....: (IEC 60065, 19.6) & (IEC 60950-1, 4.2.5)	No such glass used	N/A
4.4.4.7	Thermoplastic material tests .....: (IEC 60065, 12.1.6) & (IEC 60950-1, 4.2.7)		N/A
4.4.4.8	Air comprising a safeguard.....: (IEC 60065, 9.1.7) & (IEC 60950-1, 4.2)	(See Annex T)	P
4.4.4.9	Accessibility and safeguard effectiveness (IEC 60065, 9.1.7) & (IEC 60950-1, 4.2.1)		P
4.5	Explosion		N/A
4.6	Fixing of conductors (IEC 60065, 8.14) & (IEC 60950-1, 3.1.9)		P
4.6.1	Fix conductors not to defeat a safeguard (IEC 60065, 8.14) & (IEC 60950-1, 3.1.9)		P
4.6.2	10 N force test applied to .....: (IEC 60065, 8.14) & (IEC 60950-1, 3.1.9)		P
4.7	Equipment for direct insertion into mains socket – outlets (IEC 60065, 15.4) & (IEC 60950-1, 4.3.6)		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

4.7.2	Mains plug part complies with the relevant standard.....: (IEC 60065, 15.4.2) & (IEC 60950-1, 4.3.6)		N/A
4.7.3	Torque (Nm) .....: (IEC 60065, 15.4.1) & (IEC 60950-1, 4.3.6)		N/A
4.8	Products containing coin/button cell batteries (IEC 60065, 12.7)	No such components	N/A
4.8.2	Instructional safeguard (IEC 60065, 5.4 c), 5.5.2 j)		N/A
4.8.3	Battery Compartment Construction (IEC 60065, 12.7.2)		N/A
	Means to reduce the possibility of children removing the battery.....:		N/A
4.8.4	Battery Compartment Mechanical Tests .....: (IEC 60065, 12.7.3)		N/A
4.8.5	Battery Accessibility (IEC 60065, 12.7.4)		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....: (IEC 60065, 9.1.3, 20.3.2) & (IEC 60950-1, 4.6.1)	(See Annex P)	P

5	**ELECTRICALLY-CAUSED INJURY**		
5.2.1	Electrical energy source classifications .....:	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current .....: (IEC 60065, 9.1.1.2) & (IEC 60950-1, 2.2, 2.3, 2.4)	⎓-48 V, 25 A Max	P
5.2.2.3	Capacitance limits.....: (IEC 60065, 9.1.1.2) & (IEC 60950-1, 2.4)	Voltage less than ES1 limits	N/A
5.2.2.4	Single pulse limits .....: (IEC 60950-1, 2.2)	No single pulse limits	N/A
5.2.2.5	Limits for repetitive pulses .....: (IEC 60950-1, 2.2)	No repetitive pulses	N/A
5.2.2.6	Ringing signals .....: (IEC 60950-1, 2.3, Annex M)	No ringing signals	N/A
5.2.2.7	Audio signals .....: (IEC 60065, 9.1.1.2) & (IEC 60950-1, 2.1.1.9)	No audio signals	N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
5.3	Protection against electrical energy sources (IEC 60065, 9.1.1) & (IEC 60950-1, 2.1)	Only ES1 in the product, and the product is operated and serviced by skilled person only, no safeguards required.	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons (IEC 60065, 9.1.1) & (IEC 60950-1, 2.1)	skilled persons	P
5.3.2.1	Accessibility to electrical energy sources and safeguards (IEC 60065, 9.1.1.3, 9.1.2, 9.1.3, 9.1.4, 9.1.5) & (IEC 60950-1, 2.1.1.1)	Only ES1 in the product, and the product is operated and serviced by skilled person only, no safeguards required.	P
5.3.2.2	Contact requirements (IEC 60065, 9.1.1.1) & (IEC 60950-1, 2.1.1.1)		N/A
	a) Test with test probe from Annex V..... :		N/A
	b) Electric strength test potential (V) ..... :		N/A
	c) Air gap (mm) ..... :		N/A
5.3.2.4	Terminals for connecting stripped wire (IEC 60065, 9.1.1.4)		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material (IEC 60065, 8.3) & (IEC 60950-1, 2.9.1)	Only functional insulation	N/A
5.4.1.3	Humidity conditioning ..... : (IEC 60065, 10.3) (IEC 60950-1, 2.9.1)	No hygroscopic insulation	N/A
5.4.1.4	Maximum operating temperature for insulating materials ..... : (IEC 60065, 7.1) & (IEC 60950-1, 4.5)		N/A
5.4.1.5	Pollution degree ..... : (IEC 60065, 13.1) & (IEC 60950-1, 2.10.1.2)		—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound (IEC 60065, 13.6, 13.7) & (IEC 60950-1, 2.10.10)	pollution degree 2	N/A
5.4.1.5.3	Thermal cycling (IEC 60065, 13.6) & (IEC 60950-1, 2.10.9)		N/A
5.4.1.6	Insulation in transformers with varying dimensions (IEC 60065, 13.2) & (IEC 60950-1, 2.10.1.5)		N/A
5.4.1.7	Insulation in circuits generating starting pulses (IEC 60950-1, 2.10.3.5)		N/A
5.4.1.8	Determination of working voltage (IEC 60065, 13.2) & (IEC 60950-1, 2.10.2)		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.9	Insulating surfaces (IEC 60065, 13.3.1) & (IEC 60950-1, 2.10.3.1)		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted (IEC 60065, 7.2) & (IEC 60950-1, 4.5.5)		N/A
5.4.1.10.2	Vicat softening temperature..... : (IEC 60065, 7.2)		N/A
5.4.1.10.3	Ball pressure ..... : (IEC 60950-1, 4.5.5)		N/A
5.4.2	Clearances (IEC 60065, 13.3, Annex J) & (IEC 60950-1, 2.10.3, Annex G)		N/A
5.4.2.2	Determining clearance using peak working voltage		N/A
5.4.2.3	Determining clearance using required withstand voltage ..... :		N/A
	a) a.c. mains transient voltage..... :		N/A
	b) d.c. mains transient voltage ..... :		N/A
	c) external circuit transient voltage..... :		N/A
	d) transient voltage determined by measurement ..... :		N/A
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages..... :		N/A
5.4.3	Creepage distances..... : (IEC 60065, 13.4) & (IEC 60950-1, 2.10.4)		N/A
5.4.3.1	General		N/A
5.4.3.3	Material Group ..... : (IEC 60065, 13.4) & (IEC 60950-1, 2.10.4.2)		—
5.4.4	Solid insulation (IEC 60065, 8.8) & (IEC 60950-1, 2.10.5)		N/A
5.4.4.2	Minimum distance through insulation ..... : (IEC 60065, 8.8) & (IEC 60950-1, 2.10.5.2)		N/A
5.4.4.3	Insulation compound forming solid insulation (IEC 60065, 13.6, 13.7, 13.8) & (IEC 60950-1, 2.10.5.3)		N/A
5.4.4.4	Solid insulation in semiconductor devices (IEC 60065, 13.6, 13.8) & (IEC 60950-1, 2.10.5.4)		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.4.5	Cemented joints (IEC 60065, 13.6) & (IEC 60950-1, 2.10.5.5)		N/A
5.4.4.6	Thin sheet material (IEC 60065, 8.8) & (IEC 60950-1, 2.10.5.6)		N/A
5.4.4.6.1	General requirements (IEC 60065, 8.8)		N/A
5.4.4.6.2	Separable thin sheet material (IEC 60065, 8.8) & (IEC 60950-1, 2.10.5.7)		N/A
	Number of layers (pcs) ..... :		—
5.4.4.6.3	Non-separable thin sheet material (IEC 60065, 8.21) & (IEC 60950-1, 2.10.5.8)		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... : (IEC 60950-1, 2.10.5.9)		—
5.4.4.6.5	Mandrel test (IEC 60065, 8.21) & (IEC 60950-1, Annex AA)		N/A
5.4.4.7	Solid insulation in wound components (IEC 60065, 8.16) & (IEC 60950-1, 2.10.5.11)		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz ..... :		—
5.4.5	Antenna terminal insulation (IEC 60065, 10.2) & (IEC 60950-1, 7.4)		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test (IEC 60065, 10.2) & (IEC 60950-1, 7.4.2)		N/A
	Insulation resistance (MΩ) ..... :		—
5.4.6	Insulation of internal wire as part of supplementary safeguard..... : (IEC 60065, 8.9) & (IEC 60950-1, 2.1.1.3)		—
5.4.7	Tests for semiconductor components and for cemented joints (IEC 60065, 13.6, 13.7, 13.8) & (IEC 60950-1, 2.10.11)		N/A
5.4.8	Humidity conditioning (IEC 60065, 10.3) & (IEC 60950-1, 2.9.2)		N/A
	Relative humidity (%) ..... :		—
	Temperature (°C) ..... :		—
	Duration (h) ..... :		—

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.9	Electric strength test.....: (IEC 60065, 10.4) & (IEC 60950-1, 5.2)	Functional insulation	P
5.4.9.1	Test procedure for a solid insulation type test (IEC 60065, 10.4) & (IEC 60950-1, 5.2)	Functional insulation	P
5.4.9.2	Test procedure for routine tests (IEC 60065, N.3.2) & (IEC 60950-1, 5.2.2)		N/A
5.4.10	Protection against transient voltages between external circuit (IEC 60065, Annex B) & (IEC 60950-1, 6.2)	(See appended table 5.4.9)	P
5.4.10.1	Parts and circuits separated from external circuits (IEC 60950-1, 6.2.1)	earthing enclosure	P
5.4.10.2	Test methods (IEC 60950-1, 6.2.2)		N/A
5.4.10.2.1	General		P
5.4.10.2.2	Impulse test.....: (IEC 60950-1, 6.2.2.1)		N/A
5.4.10.2.3	Steady-state test.....: (IEC 60950-1, 6.2.2.2)		N/A
5.4.11	Insulation between external circuits and earthed circuitry.....: (IEC 60065, Annex B) & (IEC 60950-1, 6.1)	Protected grounding for permanent connections	N/A
5.4.11.1	Exceptions to separation between external circuits and earth (IEC 60950-1, 6.1.2.2)		N/A
5.4.11.2	Requirements (IEC 60950-1, 6.1.2.1)		N/A
	Rated operating voltage U_{op} (V).....:		—
	Nominal voltage U_{peak} (V).....:		—
	Max increase due to variation U_{sp}.....:		—
	Max increase due to ageing ΔU_{sa}.....:		—
	$U_{op}= U_{peak} + \Delta U_{sp} + \Delta U_{sa}$.....:		—
5.5	Components as safeguards		N/A
5.5.1	General		N/A
5.5.2	Capacitors and RC units (IEC 60065, 14.3)		N/A
5.5.2.1	General requirement (IEC 60065, 14.3) & (IEC 60950-1, 1.5.6)		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector .....: (IEC 60065, 9.1.6) & (IEC 60950-1, 2.1.1.7)	ES1 input	N/A
5.5.3	Transformers (IEC 60065, 14.4) & (IEC 60950-1, 1.5.4, Annex C)		N/A
5.5.4	Optocouplers (IEC 60065, 14.12) & (IEC 60950-1, 2.10.5.3, 2.10.5.4)		N/A
5.5.5	Relays		N/A
5.5.6	Resistors (IEC 60065, 14.2) & (IEC 60950-1, 1.5.7)		N/A
5.5.7	SPD's (IEC 60065, 14.13) & (IEC 60950-1, 1.5.9)		N/A
5.5.7.1	Use of an SPD connected to reliable earthing (IEC 60065, 14.13) & (IEC 60950-1, 1.5.9.4)		N/A
5.5.7.2	Use of an SPD between mains and protective earth (IEC 60065, 14.13) & (IEC 60950-1, 1.5.9.4)		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable.....: (IEC 60065, 10.2) & (IEC 60950-1, 1.5.7.3, 7.4)		N/A
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors (IEC 60065, 15.2) & (IEC 60950-1, 2.6.3, 2.6.5)		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation (IEC 60065, 15.2) & (IEC 60950-1, 2.6.3.5)	Yellow/Green Striped	P
5.6.3	Requirement for protective earthing conductors (IEC 60065, 15.2) & (IEC 60950-1, 2.6.3.2)		P
	Protective earthing conductor size (mm^2) .....:	4 mm^2 Min	—
5.6.4	Requirement for protective bonding conductors		P
5.6.4.1	Protective bonding conductors (IEC 60950-1, 2.6.3.3)		P
	Protective bonding conductor size (mm^2).....:	4 mm^2 Min	—
	Protective current rating (A) ..... :	30	—
5.6.4.3	Current limiting and overcurrent protective devices (IEC 60950-1, 2.6.5.2)		P
5.6.5	Terminals for protective conductors		P

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.5.1	Requirement (IEC 60065, 15.2) & (IEC 60950-1, 2.6.4.2)		P
	Conductor size (mm^2), nominal thread diameter (mm). .....:	Protective Bonding Conductor Terminal : Screw Type 4.0 mm diameter	P
5.6.5.2	Corrosion (IEC 60065, 15.2) & (IEC 60950-1, 2.6.5.6)	Screw: Steel painted with Zn; Enclosure: Steel Nut and washer: Steel painted with Zn Conductor to be connected: Copper The max electrochemical potential is: 0.45 V	P
5.6.6	Resistance of the protective system (IEC 60065, 15.2) & (IEC 60950-1, 2.6.3.4)		P
5.6.6.1	Requirements (IEC 60065, 15.2) & (IEC 60950-1, 2.6.3.4)		P
5.6.6.2	Test Method Resistance (Ω) .....: (IEC 60065, 15.2) & (IEC 60950-1, 2.6.3.4)	Test current 50 A, duration 2 mins, 0.48 V	—
5.6.7	Reliable earthing (IEC 60065, 14.13) & (IEC 60950-1, 1.5.9.4, 5.1.7.1)	Permanently connected.	P
5.7	Prospective touch voltage, touch current and protective conductor current		N/A
5.7.2	Measuring devices and networks		N/A
5.7.2.1	Measurement of touch current .....: (IEC 60065, 9.1.1.2) & (IEC 60950-1, 5.1.4)		—
5.7.2.2	Measurement of prospective touch voltage (IEC 60065, 9.1.1.2) & (IEC 60950-1, 1.4.9)		N/A
5.7.3	Equipment set-up, supply connections and earth connections (IEC 60065, 9.1.1.2) & (IEC 60950-1, 5.1.3)		N/A
	System of interconnected equipment (separate connections/single connection) .....:		—
	Multiple connections to mains (one connection at a time/simultaneous connections) .....:		—
5.7.4	Earthed conductive accessible parts.....: (IEC 60065, 9.1.1.2) & (IEC 60950-1, 5.1.6)		N/A
5.7.5	Protective conductor current (IEC 60950-1, 5.1.7)		N/A
	Supply Voltage (V) .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict

	Measured current (mA) .....:		—
	Instructional Safeguard .....:		—
5.7.6	Prospective touch voltage and touch current due to external circuits (IEC 60950-1, 5.1.8)		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits (IEC 60950-1, 5.1.8.1)		N/A
5.7.7	Summation of touch currents from external circuits (IEC 60950-1, 5.1.8.2)		N/A
	a) Equipment with earthed external circuits Measured current (mA) .....:		—
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA).....:		—

6	**ELECTRICALLY- CAUSED FIRE**		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications		P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... : (IEC 60065, 4.3.1) & (IEC 60950-1, 2.5)	(See appended table 6.2.2)	—
6.2.2.3	Power measurement for worst-case power source fault..... : (IEC 60065, 4.3.1) & (IEC 60950-1, 2.5)	(See appended table 6.2.2)	—
6.2.2.4	PS1 ..... :	(See appended table 6.2.2)	—
6.2.2.5	PS2 ..... :	(See appended table 6.2.2)	—
6.2.2.6	PS3 ..... :	(See appended table 6.2.2)	—
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS ..... :	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS ..... :	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials ..... : (IEC 60065, 7.1) & (IEC 60950-1, 4.5.3)	(See appended table 5.4.1.5, 6.3.2, 9.0, B.2.6)	—
6.3.1 (b)	Combustible materials outside fire enclosure (IEC 60950-1, 4.7.3.3)		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method (IEC 60950-1, 4.7.1)		P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		P
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits (IEC 60065, 11.2, 20.2)		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards (IEC 60065, 20.2)		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions..... : (IEC 60065, 11.2)		—
	Special conditions for temperature limited by fuse		P
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits (IEC 60950-1, 4.7.3.4)		P
6.4.5.2	Supplementary safeguards .....: (IEC 60950-1, 4.7.3.4)	(See appended tables 4.1.2 and Annex G)	—
6.4.6	Control of fire spread in PS3 circuit (IEC 60950-1, 4.7.3.4)	Parts as in 6.4.5 above; Connectors Min. V-1 material; Metal enclosure provided, also considered	P
6.4.7	Separation of combustible materials from a PIS (IEC 60065, 20.2.5) & (IEC 60950-1, 4.7.3.4)		P
6.4.7.1	General.....:	(See tables 6.2.3.1 and 6.2.3.2)	—
6.4.7.2	Separation by distance (IEC 60065, 20.2.5) & (IEC 60950-1, 4.7.3.4)		P
6.4.7.3	Separation by a fire barrier (IEC 60065, 20.2.5) & (IEC 60950-1, 4.7.3.4)		N/A
6.4.8	Fire enclosures and fire barriers (IEC 60065, 20.2.5, 20.3) & (IEC 60950-1, 4.7.2, 4.7.3)		P
6.4.8.1	Fire enclosure and fire barrier material properties (IEC 60065, 20.2.5, 20.3) & (IEC 60950-1, 4.7.3.2, 4.7.3.4)	Parts as in 6.4.5 above; Metal enclosure provided, also considered	P

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.2.1	Requirements for a fire barrier (IEC 60065, 20.2.5) & (IEC 60950-1, 4.7.3.4)		N/A
6.4.8.2.2	Requirements for a fire enclosure (IEC 60065, 20.3) & (IEC 60950-1, 4.7.3.2)	Metal enclosure provided	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings (IEC 60065, 20.3) & (IEC 60950-1, 4.6.1, 4.6.2)		P
6.4.8.3.2	Fire barrier dimensions (IEC 60065, 20.2.5) & (IEC 60950-1, 4.6.2)	Metal enclosure provided	P
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) .....: (IEC 60065, 20.3) & (IEC 60950-1, 4.6.1)	Provided with two opening areas. Right & Left: 250 mm by 70 mm with 3.5 mm	—
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm) .....: (IEC 60065, 20.3) & (IEC 60950-1, 4.6.2)	Equipment intended only for use in fixed installations and intended to be floor standing on a non-combustible surface need not be provided with a fire enclosure bottom.	P
	Flammability tests for the bottom of a fire enclosure .....:		P
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c) .....: (IEC 60950-1, 4.6.3)	Can not open the fire enclosure by ordinary person.	—
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating.....: (IEC 60065, 20.2.5) & (IEC 60950-1, 4.7.3.1, 4.7.3.2)	More than 13 mm to an arcing PIS and More than 5 mm to a resistive PIS	—
6.5	Internal and external wiring		P
6.5.1	Requirements (IEC 60065, 16.3, 20.2.3) & (IEC 60950-1, 4.7.3.3, 4.7.3.4)		N/A
6.5.2	Cross-sectional area (mm^2) .....:		—
6.5.3	Requirements for interconnection to building wiring .....: (IEC 60950-1, 2.5, 6.3)	LPS	P
6.6	Safeguards against fire due to connection to additional equipment (IEC 60950-1, 3.5.4)		N/A
	External port limited to PS2 or complies with Clause Q.1		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

7	**INJURY CAUSED BY HAZARDOUS SUBSTANCES**		N/A
7.2	Reduction of exposure to hazardous substances	No hazardous substances	N/A
7.3	Ozone exposure (IEC 60950-1, 1.7.2.6)		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions .....:		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010) .....:		—
7.6	Batteries .....: (IEC 60065, 14.10) & (IEC 60950-1, 4.3.8)	(See Annex M)	—

8	**MECHANICALLY-CAUSED INJURY**		P
8.1	General		P
8.2	Mechanical energy source classifications	MS3	P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners (IEC 60065, 19.5) & (IEC 60950-1, 4.3.1)	No sharp edges and corners	P
8.4.1	Safeguards (IEC 60950-1, 4.3.1)		P
8.5	Safeguards against moving parts	Fan box	P
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment (IEC 60065, 14.10.3) & (IEC 60950-1, 4.4)		N/A
8.5.2	Instructional Safeguard..... : (IEC 60950-1, 4.4.5.2)		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment (IEC 60950-23)		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media (IEC 60950-1, Annex EE)		N/A
8.5.4.2.1	Safeguards and Safety Interlocks .....: (IEC 60950-1, EE.3)	(See Annex F.4 and Annex K)	—
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard.....: (IEC 60950-1, EE.2)		—

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2.3	Disconnection from the supply (IEC 60950-1, EE.4)		N/A
8.5.4.2.4	Probe type and force (N) .....: (IEC 60950-1, EE.5)	No media destruction part.	N/A
8.5.5	High Pressure Lamps (IEC 60950-1, 4.2.9)	No High Pressure Lamp	N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test.....:	No High Pressure Lamp	—
8.6	Stability (IEC 60065, 19) & (IEC 60950-1, 4.1)	Product Fixed Installation	N/A
8.6.1	Product classification		N/A
	Instructional Safeguard.....: (IEC 60065, 5.5.2)		—
8.6.2	Static stability (IEC 60065, 19.1) & (IEC 60950-1, 4.1)	Product Fixed Installation	N/A
8.6.2.2	Static stability test (IEC 60065, 19.2) & (IEC 60950-1, 4.1)		N/A
	Applied Force.....:	Product Fixed Installation	—
8.6.2.3	Downward Force Test (IEC 60065, 19.3) & (IEC 60950-1, 4.1)		N/A
8.6.3	Relocation stability test (IEC 60065, 19.2)		
	Unit configuration during 10° tilt.....:		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....: (IEC 60065, 19.4)		N/A
	Position of feet or movable parts.....:		—
8.7	Equipment mounted to wall or ceiling (IEC 60065, 19.7) & (IEC 60950-1, 4.2.10)		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) .....: (IEC 60065, 19.7)		—
8.7.2	Direction and applied force.....: (IEC 60065, 19.7) & (IEC 60950-1, 4.2.10)		—
8.8	Handles strength	No Handles	N/A
8.8.1	Classification		N/A
8.8.2	Applied Force .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict

8.9	Wheels or casters attachment requirements	No Wheels or casters attachment.	N/A
8.9.1	Classification		N/A
8.9.2	Applied force .....:		—
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard.....:		—
8.10.3	Cart, stand or carrier loading test and compliance	No Cart, stand or carrier.	N/A
	Applied force .....:		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N).....:		—
8.10.6	Thermoplastic temperature stability (°C).....:		—
8.11	Mounting means for rack mounted equipment (IEC 60950-1, Annex DD)	Not mount on slide-rail.	N/A
8.11.1	General (IEC 60950-1, DD.1)		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable *N* .....: (IEC 60950-1, DD.2)		—
8.11.4	Mechanical strength test 250N, including end stops (IEC 60950-1, DD.3)		N/A
8.12	Telescoping or rod antennas.....: (IEC 60065, 12.6)	(See Annex T)	—
	Button/Ball diameter (mm).....:		—

9	**THERMAL BURN INJURY**		P
9.2	Thermal energy source classifications (IEC 60065, 7.1, 11.2) & (IEC 60950-1, 4.5.4)	External Surface TS2	P
9.3	Safeguard against thermal energy sources (IEC 60065, 7.1, 11.2) & (IEC 60950-1, 4.5.4)	Only for skill person	P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard (IEC 60065, 7.1, 11.2) & (IEC 60950-1, 4.5.4)		P
9.4.2	Instructional safeguard .....: (IEC 60065, 7.1, 11.2) & (IEC 60950-1, 4.5.4)	Needn't Instructional safeguard	—

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

10	**RADIATION**		P
10.2	Radiation energy source classification		P
10.2.1	General classification	RS1	N/A
10.3	Protection against laser radiation (IEC 60065, 6.2) & (IEC 60950-1, 4.3.13.5.1)	Indicative safety protection	P
	Laser radiation that exists equipment..... :	Class 1	—
	Normal, abnormal, single-fault ..... :	Class 1	—
	Instructional safeguard ..... :	Class 1	—
	Tool..... :	Class 1	—
10.4	Protection against visible, infrared, and UV radiation (IEC 60065, 6.3) & (IEC 60950-1, 4.3.13.4, 4.3.13.5.2)		N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons ..... :		—
10.4.1.b)	RS3 accessible to a skilled person..... :		—
	Personal safeguard (PPE) instructional safeguard ..... :		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 :		—
10.4.1.d)	Normal, abnormal, single-fault conditions ..... :	(See appended table B.3 & B.4)	—
10.4.1.e)	Enclosure material employed as safeguard is opaque..... :		—
10.4.1.f)	UV attenuation..... :		—
10.4.1.g)	Materials resistant to degradation UV ..... :		—
10.4.1.h)	Enclosure containment of optical radiation ..... :		—
10.4.1.i)	Exempt Group under normal operating conditions ..... :		—
10.4.2	Instructional safeguard ..... :		—
10.5	Protection against x-radiation (IEC 60065, 6.1) & (IEC 60950-1, 4.3.13.2)		N/A
10.5.1	X- radiation energy source that exists equipment :		—
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards ..... :		—
	Instructional safeguard for skilled person..... :		—

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

10.5.3	Most unfavourable supply voltage to give maximum radiation ..... : (IEC 60950-1, Annex H)		—
	Abnormal and single-fault condition ..... :		—
	Maximum radiation (pA/kg) ..... :		—
10.6	Protection against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)..... :		—
	Output voltage, unweighted r.m.s..... :		—
10.6.4	Protection of persons		N/A
	Instructional safeguards ..... :		—
	Equipment safeguard prevent ordinary person to RS2..... :		—
	Means to actively inform user of increase sound pressure..... :		—
	Equipment safeguard prevent ordinary person to RS2..... :		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analogue input		N/A
	Input voltage with 94 dB(A) LAeq acoustic pressure output..... :		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)..... :		—

B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements..... : (IEC 60065, 4.2.1) & (IEC 60950-1, 1.4.4)	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers ..... : (IEC 60065, 4.2.5) & (IEC 60950-1, 4.4)	No audio amplifiers	N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

B.2.3	Supply voltage and tolerances (IEC 60065, 4.2.2) & (IEC 60950-1, 1.4.5)	See page 5 and 8.	P
B.2.5	Input test..... : (IEC 60065, 4.2, 5.2 g), h)) & (IEC 60950-1, 1.6.2)	(See appended table B.2.5)	—
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements..... : (IEC 60065, 4.3) & (IEC 60950-1, 5.3.1)	(See appended table B.3)	—
B.3.2	Covering of ventilation openings (IEC 60065, 4.3.11) & (IEC 60950-1, 5.3.1)	(See appended table B.3)	P
B.3.3	D.C. mains polarity test (IEC 60065, 4.2.2) & (IEC 60950-1, 5.3.1)	(See appended table B.3)	P
B.3.4	Setting of voltage selector ..... : (IEC 60065, 4.3.14) & (IEC 60950-1, 5.3.1)	No Such voltage selector.	N/A
B.3.5	Maximum load at output terminals .....: (IEC 60065, 4.3.10) & (IEC 60950-1, 5.3.7)	No output terminals	N/A
B.3.6	Reverse battery polarity (IEC 60065, 4.3.12) & (IEC 60950-1, 4.3.8)		P
B.3.7	Abnormal operating conditions as specified in Clause E.2. (IEC 60065, 4.3.6) & (IEC 60950-1, 5.3.6)	No Such part.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions (IEC 60065, 11) & (IEC 60950-1, 5.3.9)		P
B.4	Simulated single fault conditions (IEC 60065, 4.3) & (IEC 60950-1, 1.4.14)		P
B.4.2	Temperature controlling device open or short-circuited :	(See appended table B.4)	—
B.4.3	Motor tests (IEC 60065, 4.3.7) & (IEC 60950-1, 5.3.2)		N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature ..... : (IEC 60065, 4.3.7) & (IEC 60950-1, 5.3.2)		N/A
B.4.4	Short circuit of functional insulation (IEC 60950-1, 5.3.4)	(See appended table B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors (IEC 60065, 4.3.4) & (IEC 60950-1, 5.3.7)	(See appended table B.4)	P
B.4.6	Short circuit or disconnect of passive components (IEC 60065, 4.3.5) & (IEC 60950-1, 5.3.7)		P
B.4.7	Continuous operation of components (IEC 60065, 4.3.8) & (IEC 60950-1, 5.3.5)		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions (IEC 60065, 11) & (IEC 60950-1, 5.3.9)		P
B.4.9	Battery charging under single fault conditions ... : (IEC 60065, 14.11.3) & (IEC 60950-1, 4.3.8)	(See Annex M)	—
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation (IEC 60950-1, 4.3.13.3)		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test (IEC 60950-1, Annex Y)		N/A
C.2.1	Test apparatus (IEC 60950-1, Y.1)		N/A
C.2.2	Mounting of test samples (IEC 60950-1, Y.2)		N/A
C.2.3	Carbon-arc light-exposure apparatus (IEC 60950-1, Y.3)		N/A
C.2.4	Xenon-arc light exposure apparatus (IEC 60950-1, Y.4)		N/A
D	**TEST GENERATORS**		N/A
D.1	Impulse test generators (IEC 60065, Annex K) & (IEC 60950-1, N.1)		N/A
D.2	Antenna interface test generator (IEC 60950-1, N.2)		N/A
D.3	Electronic pulse generator		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		N/A
E.1	Audio amplifier normal operating conditions (IEC 60065, 4.2.5) & (IEC 60950-1, 4.5.1)	No Audio amplifier	N/A
	Audio signal voltage (V) .....:		—
	Rated load impedance (Ω) .....:		—
E.2	Audio amplifier abnormal operating conditions (IEC 60065, 4.3.6) & (IEC 60950-1, 5.3.6)		N/A

F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	General requirements (IEC 60065, 5.1, 5.2, 5.3) & (IEC 60950-1, 1.7.2.1)		P
	Instructions – Language .....:	English	—
F.2	Letter symbols and graphical symbols (IEC 60065, 5.1)		P
F.2.1	Letter symbols according to IEC60027-1 (IEC 60065, 5.1)		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific (IEC 60065, 5.1) & (IEC 60950-1, 1.7.1.1)		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations (IEC 60065, 5.1) & (IEC 60950-1, 1.7.1.2)	Top enclosure	P
F.3.2	Equipment identification markings (IEC 60065, 5.2) & (IEC 60950-1, 1.7.1.2)		P
F.3.2.1	Manufacturer identification .....: (IEC 60065, 5.2 a)) & (IEC 60950-1, 1.7.1.2)	The manufacturer is marked on label, and affixed on the enclosure.	—
F.3.2.2	Model identification .....: (IEC 60065, 5.2 b)) & (IEC 60950-1, 1.7.1.2)	The model is marked on label, and affixed on the enclosure.	—
F.3.3	Equipment rating markings (IEC 60065, 5.2) & (IEC 60950-1, 1.7.1.1)		P
F.3.3.1	Equipment with direct connection to mains (IEC 60065, 5.2 e)) & (IEC 60950-1, 1.7.1.1)		P
F.3.3.2	Equipment without direct connection to mains (IEC 60065, 5.2 e)) & (IEC 60950-1, 1.7.1.1)		N/A
F.3.3.3	Nature of supply voltage .....: (IEC 60065, 5.2 d)) & (IEC 60950-1, 1.7.1.1)		—
F.3.3.4	Rated voltage .....: (IEC 60065, 5.2 e)) & (IEC 60950-1, 1.7.1.1)	-48 Vd.c	—

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

F.3.3.4	Rated frequency.....: (IEC 60065, 5.2 f)) & (IEC 60950-1, 1.7.1.1)	-	—
F.3.3.6	Rated current or rated power .....: (IEC 60065, 5.2 g), h)) & (IEC 60950-1, 1.7.1.1)	25 A	—
F.3.3.7	Equipment with multiple supply connections (IEC 60950-1, 1.7.1.1)		N/A
F.3.4	Voltage setting device (IEC 60065, 5.2 e)) & (IEC 60950-1, 1.7.4)	No voltage setting device	N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings..... : (IEC 60065, 5.3 c)) & (IEC 60950-1, 1.7.5)		N/A
F.3.5.2	Switch position identification marking ..... : (IEC 60065, 5.5.3) & (IEC 60950-1, 1.7.8.3)		N/A
F.3.5.3	Replacement fuse identification and rating markings..... : (IEC 60065, 14.6.3.2) & (IEC 60950-1, 1.7.6)	No fuse on EUT	N/A
F.3.5.4	Replacement battery identification marking ..... : (IEC 60065, 5.5.2 c)) & (IEC 60950-1, 1.7.13)		N/A
F.3.5.5	Terminal marking location (IEC 60950-1, 1.7.7.1)		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I Equipment	Class I Equipment	P
F.3.6.1.1	Protective earthing conductor terminal (IEC 60065, 5.3 a)) & (IEC 60950-1, 1.7.7.1)		P
F.3.6.1.2	Neutral conductor terminal (IEC 60950-1, 1.7.7.2)		N/A
F.3.6.1.3	Protective bonding conductor terminals (IEC 60950-1, 1.7.7.1)		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth (IEC 60065, 5.2 c)) & (IEC 60950-1, 1.7.7.2)		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking (IEC 60950-1, 2.6.2)		N/A
F.3.7	Equipment IP rating marking .....: (IEC 60065, A.5)		—

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

F.3.8	External power supply output marking (IEC 60065, 5.3 c))	No out put	N/A
F.3.9	Durability, legibility and permanence of marking (IEC 60065, 5.1) & (IEC 60950-1, 1.7.11)		P
F.3.10	Test for permanence of markings (IEC 60065, 5.1) & (IEC 60950-1, 1.7.11)		P
F.4	Instructions (IEC 60065, 5.4, 5.5.2) & (IEC 60950-1, 1.7.2.1, 1.7.14, 5.1.7, 3,4,3)		P
	a) Equipment for use in locations where children not likely to be present – marking		P
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		P
	d) Equipment intended for use only in restricted access area		P
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		P
	g) Protective earthing conductor current exceeding ES 2 limits		P
	h) Symbols used on equipment		P
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards (IEC 60065, 5.4, 5.5)		P
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		P

G	**COMPONENTS**		P
G.1	**Switches** (IEC 60950-1, 2.8.7)		N/A
G.1.1	General requirements (IEC 60065, 14.7)		N/A
G.1.2	Ratings, endurance, spacing, maximum load (IEC 60065, 14.7)		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

G.2	**Relays** (IEC 60065, 14.4.3) & (IEC 60950-1, 2.8.7)		N/A
G.2.1	General requirements		N/A
G.2.2	Overload test (IEC 60950-1, 2.8.7.2)		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	**Protection Devices**		N/A
G.3.1	Thermal cut-offs (IEC 60065, 14.6.2.2)		N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b) (IEC 60065, 14.6.2.2 a))		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c) (IEC 60065, 14.6.2.2 b))		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links (IEC 60065, 14.6.2.3)		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691 (IEC 60065, 14.6.2.3 a))		N/A
G.3.2.1b)	Thermal links tested as part of the equipment (IEC 60065, 14.6.2.3 b))		N/A
	Aging hours (H) ..... :		—
	Single Fault Condition ..... :		—
	Test Voltage (V) and Insulation Resistance (Ω). :		—
G.3.3	PTC Thermistors (IEC 60065, 14.6.4) & (IEC 60950-1, 2.5)		N/A
G.3.4	Overcurrent protection devices (IEC 60065, 14.6.3) & (IEC 60950-1, 2.7)		N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5 (IEC 60065, 14.6.5)		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided (IEC 60065, 14.6.5)		N/A
G.3.5.2	Single faults conditions.....: (IEC 60065, 14.6.5)	(See appended Table B.4)	N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

G.4	**Connectors**		P
G.4.1	Spacings (IEC 60950-1, 2.10.3.1, 2.10.4.3)		P
G.4.2	Mains connector configuration .....: (IEC 60065, 15.1) & (IEC 60950-1, 3.2.4)		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely (IEC 60065, 15.1.2) & (IEC 60950-1, 4.3.5)		P
G.5	**Wound Components**		P
G.5.1	Wire insulation in wound components.....	(See Annex J)	—
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90° (IEC 60065, 8.16) & (IEC 60950-1, 2.10.5.12)		N/A
G.5.1.2 b)	Construction subject to routine testing (IEC 60950-1, 2.10.5.11)		N/A
G.5.2	Endurance test on wound components (IEC 60065, 8.17)		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test (IEC 60065, 8.17 a))		N/A
	Time (s) .....:		N/A
	Temperature (°C) .....:		N/A
G.5.2.3	Wound Components supplied by mains (IEC 60065, 8.17 d))		N/A
G.5.3	**Transformers** (IEC 60950-1, 1.5.4)		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1) .....: (IEC 60065, 14.4.3)	Only function insulation	P
	Position.....:	Only function insulation	P
	Method of protection .....:	Only function insulation	P
G.5.3.2	Insulation		P
	Protection from displacement of windings .....: (IEC 60065, 14.4) & (IEC 60950-1, C.2)	Only function insulation	P
G.5.3.3	Overload test..... :	(See appended table B.3)	N/A
G.5.3.3.1	Test conditions (IEC 60950-1, C.1)		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

G.5.3.3.2	Winding Temperatures testing in the unit (IEC 60065, 11.2) & (IEC 60950-1, C.1)		N/A
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	**Motors**		N/A
G.5.4.1	General requirements (IEC 60065, 4.3.7, 14.10) & (IEC 60950-1, B.1)		N/A
	Position .....:		—
G.5.4.2	Test conditions (IEC 60065, 4.3.7, 14.10) & (IEC 60950-1, B.2)		N/A
G.5.4.3	Running overload test (IEC 60950-1, B.4)		N/A
G.5.4.4	Locked-rotor overload test (IEC 60065, 4.3.7) & (IEC 60950-1, B.5)		N/A
	Test duration (days) .....:		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits (IEC 60950-1, B.6)		N/A
G.5.4.5.2	Tested in the unit (IEC 60950-1, B.6.2)		N/A
	Electric strength test (V).....:		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h) .....: (IEC 60950-1, B.6.3)		—
	Electric strength test (V).....:		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits (IEC 60065, 4.3.7) & (IEC 60950-1, B.7)		N/A
G.5.4.6.2	Tested in the unit (IEC 60950-1, B.7.2)		N/A
	Maximum Temperature .....:		—
	Electric strength test (V) .....:		—
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h) .....: (IEC 60950-1, B.7.3)		—
	Electric strength test (V).....:		—
G.5.4.7	Motors with capacitors (IEC 60950-1, B.8)		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.8	Three-phase motors (IEC 60950-1, B.9)		N/A
G.5.4.9	Series motors (IEC 60950-1, B.10)		N/A
	Operating voltage .....:		—
G.6	**Wire Insulation**		N/A
G.6.1	General (IEC 60065, 8.16) & (IEC 60950-1, 2.10.5.12)		N/A
G.6.2	Solvent-based enamel wiring insulation (IEC 60065, 8.1) & (IEC 60950-1, 2.10.5.13)		N/A
G.7	**Mains supply cords**		N/A
G.7.1	General requirements (IEC 60065, 16.1, 16.2) & (IEC 60950-1, 3.2.5.1)		N/A
	Type.....:		—
	Rated current (A).....:		—
	Cross-sectional area (mm^2), (AWG) ..... :		—
G.7.2	Compliance and test method (IEC 60065, 16.2) & (IEC 60950-1, 3.2.5.1)		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements (IEC 60065, 16.5) & (IEC 60950-1, 3.2.6)		N/A
	Strain relief test force (N) .....:		—
G.7.3.2.2	Strain relief mechanism failure (IEC 60950-1, 3.2.6)		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)....: (IEC 60065, 16.5) & (IEC 60950-1, 3.2.7)		—
G.7.3.2.4	Strain relief comprised of polymeric material (IEC 60065, 16.5) & (IEC 60950-1, 3.2.6, 3.2.7)		N/A
G.7.4	Cord Entry ..... : (IEC 60950-1, 3.1.4, 3.2.7)		—
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements (IEC 60950-1, 3.2.8)		N/A
G.7.5.2	Mass (g) ..... :		—
	Diameter (m) .....:		—

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

	Temperature (°C) .....:		—
G.7.6	Supply wiring space (IEC 60950-1, 3.2.9)		N/A
G.7.6.2	Stranded wire (IEC 60950-1, 3.3.8)		N/A
G.7.6.2.1	Test with 8 mm strand (IEC 60950-1, 3.3.8)		N/A
G.8	**Varistors**		N/A
G.8.1	General requirements		N/A
G.8.2	Safeguard against shock (IEC 60065, 14.13) & (IEC 60950-1, Annex Q)		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test .....: (IEC 60065, 14.13)	(See appended table B.3)	N/A
G.8.3.3	Temporary overvoltage .....:	(See appended table B.3)	N/A
G.9	**Integrated Circuit (IC) Current Limiters** (IEC 60950-1, Annex CC)		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A. (IEC 60950-1, CC.1)		N/A
G.9.1 b)	Limiters do not have manual operator or reset (IEC 60950-1, CC.1)		N/A
G.9.1 c)	Supply source does not exceed 250 VA .....: (IEC 60950-1, CC.1)		N/A
G.9.1 d)	IC limiter output current (max. 5A) .....: (IEC 60950-1, CC.1)		N/A
G.9.1 e)	Manufacturers' defined drift .....: (IEC 60950-1, CC.1)		N/A
G.9.2	Test Program 1 (IEC 60950-1, CC.2)		N/A
G.9.3	Test Program 2 (IEC 60950-1, CC.3)		N/A
G.9.4	Test Program 3 (IEC 60950-1, CC.4)		N/A
G.10	**Resistors** (IEC 60065, 14.2) & (IEC 60950-1, 1.5.7)		N/A
G.10.1	General requirements (IEC 60065, 14.2) & (IEC 60950-1, 1.5.7.1)		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
G.10.2	Resistor test (IEC 60065, 14.2) & (IEC 60950-1, 1.5.7.2)		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable (IEC 60065, 14.2) & (IEC 60950-1, 1.5.7.3)		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test (IEC 60950-1, 1.5.7.3)		N/A
G.11	**Capacitor and RC units** (IEC 60065, 14.3) & (IEC 60950-1, 1.5.6)		N/A
G.11.1	General requirements (IEC 60065, 14.3.1) & (IEC 60950-1, 1.5.6)		N/A
G.11.2	Conditioning of capacitors and RC units (IEC 60065, 14.3.1) & (IEC 60950-1, 1.5.6)		N/A
G.11.3	Rules for selecting capacitors (IEC 60065, 14.3.2) & (IEC 60950-1, 1.5.6)		N/A
G.12	**Optocouplers**		N/A
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....: (IEC 60065, 14.12) & (IEC 60950-1, 2.10.5.4)		N/A
	Type test voltage Vini .....:		—
	Routine test voltage, Vini,b .....:		—
G.13	**Printed boards** (IEC 60065, 13.5) & (IEC 60950-1, 2.10.6)		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards (IEC 60065, 13.5.1) & (IEC 60950-1, 2.10.6.1)		P
G.13.3	Coated printed boards (IEC 60065, 13.5.2) & (IEC 60950-1, 2.10.6.2)		P
G.13.4	Insulation between conductors on the same inner surface (IEC 60950-1, 2.10.6.3)		P
	Compliance with cemented joint requirements (Specify construction).....: (IEC 60065, 13.5.2, 13.6, 13.7) & (IEC 60950-1, 2.10.5.5)		—

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
G.13.5	Insulation between conductors on different surfaces (IEC 60065, 13.5.1) & (IEC 60950-1, 2.10.6.4)		N/A
	Distance through insulation.....:	(See appended table 5.4.4.5)	—
	Number of insulation layers (pcs) .....:		—
G.13.6	Tests on coated printed boards (IEC 60065, 13.5.2) & (IEC 60950-1, 2.10.8)		N/A
G.13.6.1	Sample preparation and preliminary inspection (IEC 60950-1, 2.10.8.1)		N/A
G.13.6.2a)	Thermal conditioning (IEC 60950-1, 2.10.8.2)		N/A
G.13.6.2b)	Electric strength test (IEC 60950-1, 2.10.8.3)		N/A
G.13.6.2c)	Abrasion resistance test (IEC 60950-1, 2.10.8.4)		N/A
G.14	**Coating on components terminals**		N/A
G.14.1	Requirements .....: (IEC 60950-1, 2.10.7)	(See G.13)	—
G.15	**Liquid filled components**		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with Uc = to transient voltage .....:		—
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage .....:		—

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance .....:		—
D3)	Resistance .....:		—

H	**CRITERIA FOR TELEPHONE RINGING SIGNALS**		N/A
H.1	General (IEC 60950-1, M.1)		N/A
H.2	Method A (IEC 60950-1, M.2)		N/A
H.3	Method B (IEC 60950-1, M.3)		N/A
H.3.1	Ringing signal (IEC 60950-1, M.3.1)		N/A
H.3.1.1	Frequency (Hz) .....: (IEC 60950-1, M.3.1.1)		—
H.3.1.2	Voltage (V) .....: (IEC 60950-1, M.3.1.2)		—
H.3.1.3	Cadence; time (s) and voltage (V) .....: (IEC 60950-1, M.3.1.3)		—
H.3.1.4	Single fault current (mA): .....: (IEC 60950-1, M.3.1.4)		—
H.3.2	Tripping device and monitoring voltage .....: (IEC 60950-1, M.3.2)		—
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with (IEC 60950-1, M.3.2.1)		N/A
H.3.2.2	Tripping device (IEC 60950-1, M.3.2.2)		N/A
H.3.2.3	Monitoring voltage (V) .....: (IEC 60950-1, M.3.2.3)		—

J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		N/A
	General requirements (IEC 60065, Annex H) & (IEC 60950-1, Annex U)	(See separate test report)	N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

K	**SAFETY INTERLOCKS**		N/A
K.1	General requirements (IEC 60065, 14.8) & (IEC 60950-1, 2.8.1, 2.8.2)		N/A
K.2	Components of safety interlock safeguard mechanism ..... (IEC 60950-1, 2.8.7)	(See Annex G)	—
K.3	Inadvertent change of operating mode (IEC 60950-1, 2.8.3)		N/A
K.4	Interlock safeguard override (IEC 60950-1, 2.8.6)		N/A
K.5	Fail-safe (IEC 60950-1, 2.8.4)		N/A
	Compliance .....:	(See appended table B.4)	—
K.6	Mechanically operated safety interlocks (IEC 60950-1, 2.8.5)		N/A
K.6.1	Endurance requirement (IEC 60950-1, 2.8.5)		N/A
K.6.2	Compliance and Test method .....: (IEC 60950-1, 2.8.5)		—
K.7	Interlock circuit isolation (IEC 60950-1, 2.8.7)		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location) .....: (IEC 60950-1, 2.8.7.1, 2.8.7.3)		—
K.7.2	Overload test, Current (A) .....: (IEC 60950-1, 2.8.7.2)		—
K.7.3	Endurance test (IEC 60950-1, 2.8.7.3)		N/A
K.7.4	Electric strength test .....: (IEC 60950-1, 2.8.7.4)	(See appended table 5.4.11)	—

L	**DISCONNECT DEVICES**		P
L.1	General requirements (IEC 60065, 5.5.3) & (IEC 60950-1, 3.4.1, 3.4.2)		P
L.2	Permanently connected equipment (IEC 60065, 5.5.3) & (IEC 60950-1, 3.4.3)		P
L.3	Parts that remain energized (IEC 60065, 5.5.3) & (IEC 60950-1, 3.4.4)		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
L.4	Single phase equipment (IEC 60065, 5.5.3) & (IEC 60950-1, 3.4.6)		N/A
L.5	Three-phase equipment (IEC 60065, 8.18) & (IEC 60950-1, 3.4.7)		N/A
L.6	Switches as disconnect devices (IEC 60065, 5.5.3) & (IEC 60950-1, 3.4.8)		N/A
L.7	Plugs as disconnect devices (IEC 60065, 5.5.3) & (IEC 60950-1, 3.4.9)		N/A
L.8	Multiple power sources (IEC 60950-1, 3.4.11)		N/A
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		P
M.1	General requirements (IEC 60065, 5.5.2 c)) & (IEC 60950-1, 1.7.13)		P
M.2	Safety of batteries and their cells (IEC 60065, 14.11.1) & (IEC 60950-1, 4.3.8)		N/A
M.2.1	Requirements (IEC 60950-1, 4.3.8)		N/A
M.2.2	Compliance and test method (identify method) .. : (IEC 60950-1, 4.3.8)		—
M.3	Protection circuits (IEC 60950-1, 4.3.8)		P
M.3.1	Requirements (IEC 60950-1, 4.3.8)		P
M.3.2	Tests (IEC 60950-1, 4.3.8)		P
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		P
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance .....: (IEC 60950-1, 4.3.8)		—
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

M.4.2.2a)	Charging voltage, current and temperature .....: (IEC 60065, 14.11.3)		—
M.4.2.2 b)	Single faults in charging circuitry .....: (IEC 60065, 14.11.3)		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests (IEC 60065, 14.11.5)		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method) ..... :		—
M.6.2	Leakage current (mA) ..... :		—
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume Vz (m^3/s)..... :		—

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
M.8.2.3	Correction factors ..... :		—
M.8.2.4	Calculation of distance *d* (mm) ..... :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) ..... : (IEC 60065, 5.5.1)		—
N	**ELECTROCHEMICAL POTENTIALS**		P
	Metal(s) used ..... : (IEC 60065, Annex F) & (IEC 60950-1, Annex J)	Pollution degree considered	—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		N/A
	Figures O.1 to O.20 of this Annex applied ..... : (IEC 60065, Annex E) & (IEC 60950-1, Annex F)		—
P	**SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS**		P
P.1	General requirements		P
P.2.2	Safeguards against entry of foreign object (IEC 60065, 9.1.3) & (IEC 60950-1, 4.6.1)	Provided with two opening areas. Right & Left: 250 mm by 70 mm with 3.5 mm diameter	N/A
	Location and Dimensions (mm) ..... :		—
P.2.3	Safeguard against the consequences of entry of foreign object		P
P.2.3.1	Safeguards against the entry of a foreign object (IEC 60950-1, 4.6.1, 4.6.4.3)		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts ..... :		—
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) ..... : (IEC 60950-1, 4.6.4.2, 4.6.4.3)		—
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing (IEC 60950-1, 4.6.5)		N/A
	Tc (°C) ..... :		—
	Tr (°C) ..... :		—
	Ta (°C) ..... :		—
P.4.2 b)	Abrasion testing ..... :		—
P.4.2 c)	Mechanical strength testing ..... :		—

Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		P
Q.1	Limited power sources (IEC 60950-1, 2.5)		P
Q.1.1 a)	Inherently limited output (IEC 60950-1, 2.5)		N/A
Q.1.1 b)	Impedance limited output (IEC 60950-1, 2.5)		N/A
	- Regulating network limited output under normal operating and simulated single fault condition	3.80 W Max	P
Q.1.1 c)	Overcurrent protective device limited output (IEC 60950-1, 2.5)		N/A
Q.1.1 d)	IC current limiter complying with G.9 (IEC 60950-1, 2.5)		N/A
Q.1.2	Compliance and test method (IEC 60950-1, 2.5)		P
Q.2	Test for external circuits – paired conductor cable (IEC 60950-1, 6.3)		N/A
	Maximum output current (A) ..... :		—
	Current limiting method ..... :		—

R	**LIMITED SHORT CIRCUIT TEST**		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)). ..... :		—

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict

S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material .....:		—
	Wall thickness (mm).....:		—
	Conditioning (°C).....:		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material .....:		—
	Wall thickness (mm).....:		—
	Conditioning (°C).....:		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure (IEC 60950-1, A.3)		N/A
	Samples, material .....:		—
	Wall thickness (mm).....:		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures materials of equipment with a steady-state power exceeding 4000W.		N/A
	Samples, material .....:		—
	Wall thickness (mm).....:		—
	Conditioning (test condition), (°C).....:		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
	After fifth flame application, flame extinguished within 1 min		N/A
T	**MECHANICAL STRENGTH TESTS**		P
T.1	General requirements		P
T.2	Steady force test, 10 N .....: (IEC 60065, 13.3.1) & (IEC 60950-1, 4.2.2)	(See appended table T.2)	P
T.3	Steady force test, 30 N .....: (IEC 60065, 13.3.1) & (IEC 60950-1, 4.2.3)	(See appended table T3)	N/A
T.4	Steady force test, 100 N .....: (IEC 60065, 9.1.7)	(See appended table T4)	N/A
T.5	Steady force test, 250 N .....: (IEC 60065, 9.1.7) & (IEC 60950-1, 4.2.4)	(See appended table T5)	P
T.6	Enclosure impact test (IEC 60065, 12.1.4) & (IEC 60950-1, 4.2.5)	(See appended table T6)	P
	Fall test		P
	Swing test		N/A
T.7	Drop test .....: (IEC 60065, 12.1.5) & (IEC 60950-1, 4.2.6)	(See appended table T7)	N/A
T.8	Stress relief test .....: (IEC 60065, 12.1.6) & (IEC 60950-1, 4.2.7)	(See appended table T8)	N/A
T.9	Impact Test (glass) (IEC 60065, 19.6.1) & (IEC 60950-1, 4.2.5)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....:		—
	Height (m) .....:		—
T.10	Glass fragmentation test .....: (IEC 60065, 19.6.2)	(See sub-clause 4.4.4.9)	—
T.11	Test for telescoping or rod antennas (IEC 60065, 12.6)		N/A
	Torque value (Nm) .....:		—
U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFECTS OF IMPLOSION**		N/A
U.1	General requirements (IEC 60065, 18.1) & (IEC 60950-1, 4.2.8)		N/A

IEC 62368-1 (ed.2) & IEC 60065 (ed.8) & IEC 60950-1 (ed.2), am1; am2			
Clause	Requirement + Test	Result - Remark	Verdict
U.2	Compliance and test method for non-intrinsically protected CRTs (IEC 60065, 18.2)		N/A
U.3	Protective Screen.....:	(See Annex T)	—
V	**DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)**		P
V.1	Accessible parts of equipment (IEC 60065, 9.1.1.3, 9.1.3, 9.1.4) & (IEC 60950-1, 1.7.2.5, 2.1.1.1, EE.5)		P
V.2	Accessible part criterion		P

4.1.2	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1])
Enclosure	-	-	Matel; oversize 86 mm by 442 mm by 310 mm	-	-
Openings on enclosure	-	-	Provided with two opening areas. Right & Left: 250 mm by 70 mm with 3.5 mm	-	-
Laser transceiver	Various	Various	Rated: 3.3V/ 5.0V, 850/ 1310/ 1550 nm, class 1 laser	UL 60950-1 EN 60950-1 EN 60825-1 EN 60825-2	UL, TUV
PCB	Various	Various	V-1 or better, min. 130˚C	UL796	UL
Lithium Battery on UMPTe, UMPTg board 24010023	PANASONIC	BR-2032	Rated:3 V; 0.20Ah Max.abnormal charge, current:5mA	UL1642	UL, MH12210
Lithium Battery on UMPTe, UMPTg board 24010067	PANASONIC	BR2032	Rated:3 V; 0.200 Ah Max.abnormal charge, current:5mA	UL1642	UL, MH12210
-alternative	EVE ENERGY CO LTD	CR2032HT	Rated:3 V; 0.200 Ah Max.abnormal charge, current:5mA	UL1642	UL, MH12210
fan 32030234	NIDEC TAIWAN CORP	3U80T12BS1A5-07Z04	Input: 12 V d.c., 3.3 A; 238.3 CFM	ANSI/UL 507 EN 60950-1/A1+A2	UL E339289 TUV B150535735198
(Alternative)	ASIA VITAL COMPONENTS CO LTD	DPPB0825B2GP001	Input: 12 V d.c., 4.5 A; 237.7 CFM	ANSI/UL 507	UL E158191
(Alternative)	DELTA ELECTRONICS INC	FA123A08-E32	Input: 12 V d.c., 5.4 A; 229.93 CFM	ANSI/UL 507 IEC 60950-1/A1+A2	UL E132003 TUV R50156481

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Fuse F6500, F7000,F1004,F8500 on UMPT board 19040095	LITTELFUSE INC	453*	125 V a.c.,2 A	ANSI/UL 248-1	UL, E10480
-alternative	LITTELFUSE INC	451*	125 V a.c.,2 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c.,2 A	ANSI/UL 248-1	UL, E82636
-alternative	BEL FUSE INC	SSQ	125 V a.c.,2 A	ANSI/UL 248-1	UL, E20624
-alternative 19040095-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c.,2 A	UL248/cUL248	UL E357828
-alternative 19040095-002	LITTELFUSE INC	453*	125 V a.c.,2 A	ANSI/UL 248-1	UL, E10480
Fuse F5000 on UBBP board 19040095	LITTELFUSE INC	453*	125 V a.c.,2 A	ANSI/UL 248-1	UL, E10480
-alternative	LITTELFUSE INC	451*	125 V a.c.,2 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c.,2 A	ANSI/UL 248-1	UL, E82636
-alternative	BEL FUSE INC	SSQ	125 V a.c.,2 A	ANSI/UL 248-1	UL, E20624
-alternative 19040095-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c.,2 A	UL248/cUL248	UL E357828
-alternative 19040095-002	LITTELFUSE INC	453*	125 V a.c.,2 A	ANSI/UL 248-1	UL, E10480
Fuse (F1000,F10006) on UMPT 19040112	BEL FUSE INC	SSQL	125 V a.c./d.c.,10 A	ANSI/UL 248-1	UL, E20624
-alternative	LITTELFUSE INC	451*	125 V a.c./d.c.,10 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,10 A	ANSI/UL 248-1	UL, E82636
-alternative	LITTELFUSE INC	453*	125 V a.c./d.c.,10 A	ANSI/UL 248-1	UL, E10480

-alternative 19040112-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c./d.c.,10 A	UL248/cUL248	UL E357828
-alternative 19040112-002	LITTELFUSE INC	453*	125 V a.c./d.c.,10 A	ANSI/UL 248-1	UL, E10480
Fuse F6500,F6000 on UMPT board 19040096	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E82636
-alternative 19040096-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c./d.c.,1 A	UL248/cUL248	UL E357828
-alternative 19040096-002	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
Fuse F8000 on WD22GTMUc board 19040096	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E82636
-alternative 19040096-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c./d.c.,1 A	UL248/cUL248	UL E357828
-alternative 19040096-002	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
Fuse F7500 of UMPT board 19040104	CONQUER ELECTRONICS CO LTD	SEF	86 V a.c./d.c.,15 A	ANSI/UL 248-1	UL, E82636
-alternative	LITTELFUSE INC	448	85 V d.c.,15 A	ANSI/UL 248-1	UL, E10480
-alternative	BEL FUSE INC	SSQ	85 V d.c.,15 A	ANSI/UL 248-1	UL, E20624
-alternative 19040104-002	SHEN ZHEN VICTORS INDUSTRIAL CO LTD	VF453	86 V a.c./d.c.,15 A	UL248/cUL248	UL E357828
-alternative 19040104-002	BEL FUSE INC	SSQ	85 V d.c.,15 A	ANSI/UL 248-1	UL, E20624

Fuse F38 of UPEUd board 19040078	CONQUER ELECTRONICS CO LTD	ABE	250 V a.c.,30 A	ANSI/UL 248-1	UL, E82636
-alternative	CONQUER ELECTRONICS CO LTD	ABE	250 V a.c.,30 A	ANSI/UL 248-1	UL, E82636
-alternative	LITTELFUSE INC	314*	250 V a.c.,30 A	ANSI/UL 248-1	UL, E10480
Fuse F1, F2 of WD2E1FANe, WD2E2FANE, WD2E3FANE board 19040109	BEL FUSE INC	SST	125 V a.c./d.c.,7 A	ANSI/UL 248-1	UL, E20624
-alternative	CONQUER ELECTRONICS CO LTD	SET	125 V a.c./d.c.,7 A	ANSI/UL 248-1	UL, E82636
Fuse F3, F4, F5 of WD2E1FANe, WD2E2FANE, WD2E3FANE board 19040098	LITTELFUSE INC	452*$	125 V a.c./d.c.,3 A	ANSI/UL 248-1	UL, E10480
-alternative	LITTELFUSE INC	454*	125 V a.c./d.c.,3 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SET	125 V a.c./d.c.,3 A	ANSI/UL 248-1	UL, E82636
-alternative	BEL FUSE INC	SST	125 V a.c./d.c.,3 A	ANSI/UL 248-1	UL, E20624
-alternative 19040098-002	CONQUER ELECTRONICS CO LTD	SET	125 V a.c./d.c.,3 A	ANSI/UL 248-1	UL, E82636
Transformer T3 of UPEUd 09040371	Jinchuan	BSER7-1	Class F	IEC/EN 60950-1	Tested with the appliance
-alternative	Highlight	SMD08C1116R	Class F	IEC/EN 60950-1	Tested with the appliance
Transformer T1 of UPEUd 09040434	Jinchuan	BDC-30-65	130 °C	IEC/EN 60950-1	Tested with the appliance
-alternative	Highlight	PT0580S	130 °C	IEC/EN 60950-1	Tested with the appliance
Fuse F5000, F5003,F7000,	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480

F9000 of UBBP board 19040096					
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E82636
-alternative 19040096-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c./d.c.,1 A	UL248/cUL248	UL E357828
-alternative 19040096-002	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
Fuse F19001, F19000 of UBBP board 19040289	Vicfuse	CP06V3T5R0	18 V d.c, 5 A	ANSI/UL 248-1	UL, E345565
-alternative	LITTELFUSE INC	438	18 V d.c, 5 A	ANSI/UL 248-1	UL, E10480
Fuse F5000 of WBBP board 19040096	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E82636
-alternative 19040096-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c./d.c.,1 A	UL248/cUL248	UL E357828
-alternative 19040096-002	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
Fuse F5000 of LBBP board 19040096	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E82636
-alternative 19040096-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c./d.c.,1 A	UL248/cUL248	UL E357828
-alternative 19040096-002	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
Fuse F37 of WD2M1UEIU board 19040096	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480

-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E82636
-alternative 19040096-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c./d.c.,1 A	UL248/cUL248	UL E357828
-alternative 19040096-002	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
Fuse F9001 of WD22UTRPC board 19040096	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E82636
-alternative 19040096-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c./d.c.,1 A	UL248/cUL248	UL E357828
-alternative 19040096-002	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
Fuse F9001 of WD22GTMUc board 19040096	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E82636
-alternative 19040096-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c./d.c.,1 A	UL248/cUL248	UL E357828
-alternative 19040096-002	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
Fuse F9001 of WD21LCOP board 19040096	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E82636
-alternative 19040096-002	SHENZHEN VICTORS	VF453	125 V a.c./d.c.,1 A	UL248/cUL248	UL E357828

	INDUSTRIAL CO LTD				
-alternative 19040096-002	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
Fuse F9009 of WD22UTRPC board 19040097	LITTELFUSE INC	453*	125 V a.c./d.c.,7 A	ANSI/UL 248-1	UL, E10480
-alternative	LITTELFUSE INC	451*	125 V a.c./d.c.,7 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,7 A	ANSI/UL 248-1	UL, E82636
-alternative	BEL FUSE INC	SSQ	125 V a.c./125 V d.c.,7 A	ANSI/UL 248-1	UL, E20624
Fuse F9000 of WD22GTMUc board 19040097	LITTELFUSE INC	453*	125 V a.c./d.c.,7 A	ANSI/UL 248-1	UL, E10480
-alternative	LITTELFUSE INC	451*	125 V a.c./d.c.,7 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,7 A	ANSI/UL 248-1	UL, E82636
-alternative	BEL FUSE INC	SSQ	125 V a.c./125 V d.c.,7 A	ANSI/UL 248-1	UL, E20624
Fuse F7500 of UMPT board 19040097	LITTELFUSE INC	453*	125 V a.c./d.c.,7 A	ANSI/UL 248-1	UL, E10480
-alternative	LITTELFUSE INC	451*	125 V a.c./d.c.,7 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,7 A	ANSI/UL 248-1	UL, E82636
-alternative	BEL FUSE INC	SSQ	125 V a.c./125 V d.c.,7 A	ANSI/UL 248-1	UL, E20624
Fuse F4000,F10000,F10001,F9400,F9401 of UBBP board 19040104	CONQUER ELECTRONICS CO LTD	SEF	86 V a.c./d.c.,15 A	ANSI/UL 248-1	UL, E82636
-alternative	LITTELFUSE INC	448	85 V d.c.,15 A	ANSI/UL 248-1	UL, E10480
-alternative	BEL FUSE INC	SSQ	85 V d.c.,15 A	ANSI/UL 248-1	UL, E20624
-alternative 19040104-002	SHEN ZHEN VICTORS	VF453	86 V a.c./d.c.,15 A	UL248/cUL248	UL E357828

	INDUSTRIAL CO LTD				
-alternative 19040104-002	BEL FUSE INC	SSQ	85 V d.c.,15 A	ANSI/UL 248-1	UL, E20624
Fuse F4000 of WBBP board 19040104	CONQUER ELECTRONICS CO LTD	SEF	86 V a.c./d.c.,15 A	ANSI/UL 248-1	UL, E82636
-alternative	LITTELFUSE INC	448	85 V d.c.,15 A	ANSI/UL 248-1	UL, E10480
-alternative	BEL FUSE INC	SSQ	85 V d.c.,15 A	ANSI/UL 248-1	UL, E20624
-alternative 19040104-002	SHEN ZHEN VICTORS INDUSTRIAL CO LTD	VF453	86 V a.c./d.c.,15 A	UL248/cUL248	UL E357828
-alternative 19040104-002	BEL FUSE INC	SSQ	85 V d.c.,15 A	ANSI/UL 248-1	UL, E20624
Fuse F4000 of LBBP board 19040104	CONQUER ELECTRONICS CO LTD	SEF	86 V a.c./d.c.,15 A	ANSI/UL 248-1	UL, E82636
-alternative	LITTELFUSE INC	448	85 V d.c.,15 A	ANSI/UL 248-1	UL, E10480
-alternative	BEL FUSE INC	SSQ	85 V d.c.,15 A	ANSI/UL 248-1	UL, E20624
-alternative 19040104-002	SHEN ZHEN VICTORS INDUSTRIAL CO LTD	VF453	86 V a.c./d.c.,15 A	UL248/cUL248	UL E357828
-alternative 19040104-002	BEL FUSE INC	SSQ	85 V d.c.,15 A	ANSI/UL 248-1	UL, E20624
Rocker Switch of UPEUd 16040073	LIGHT COUNTRY	R19A22KKFR0 FL-D1H	250 V, 5 A	UL 61058-1	UL E104190
DC input connector of UPEUd 14060384	SICHUAN HUAFENG ENTERPRISE GROUP CO LTD	DA-2PL1SL-2dLIS	30 A	UL 94	UL E217594
-alternative	SUZHOU HUAZHAN SPACE APPLIANCE Co., Ltd.	J18AKI3Z2HWII IP-N(No2)	30 A	UL 94	UL E213445

Chip IC U3001, U4005, U5016, U1006,U4006,U5008 of UMPT board 39070055(for protected USB port)	TI	TPS2553	Max. 6.5 V d.c., Max. 1.3 A	UL1459 IEC 60950/A2:2013	UL E169910; Some supplement test accroding IEC 60950 Annex CC.
Chip IC U10021, U10022, U10023, U1088,U1089,U1090 of UMPT board 39070324 (for protected USB port)	SILERGY TECHNOLOGY (TAIWAN) INC	SYV687ZDEC	Input Voltage: 2.5 to 5.5 Vdc Output Continuous Rating: Max. 2.0 A Current Limit Rating: 0.575A to 4.43 A	UL2367 IEC 62368	UL E491480
Fuse F1, F2, F3 of USCU board 19040096	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
-alternative	CONQUER ELECTRONICS CO LTD	SEF	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E82636
-alternative 19040096-002	SHENZHEN VICTORS INDUSTRIAL CO LTD	VF453	125 V a.c./d.c.,1 A	UL248/cUL248	UL E357828
-alternative 19040096-002	LITTELFUSE INC	453	125 V a.c./d.c.,1 A	ANSI/UL 248-1	UL, E10480
1) An asterisk indicates a mark which assures the agreed level of surveillance					
Supplementary information:					

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests	N/A
(The following mechanical tests are conducted in the sequence noted.)		

4.8.4.2	TABLE: Stress relief test	—

Part	Material	Oven Temperature (°C)	Comments
-	-	-	-

4.8.4.3	TABLE: Battery replacement test	—
Battery part no. ..... :		—

Battery Installation/withdrawal	Battery Installation/Removal Cycle	Comments
-	1	-
	2	-
	3	-
	4	-
	5	-
	6	-
	8	-
	9	-
	10	-

4.8.4.4	TABLE: Drop test	—

Impact Area	Drop Distance	Drop No.	Observations
-	-	1	-
-	-	2	-
-	-	3	-

4.8.4.5	TABLE: Impact	—

Impacts per surface	Surface tested	Impact energy (Nm)	Comments
-	-	-	-
-	-	-	-
-	-	-	-

4.8.4.6	TABLE: Crush test	—

Test position	Surface tested	Crushing Force (N)	Duration force applied (s)
-	-	-	-
-	-	-	-

Supplementary information:

4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result	N/A

Test position	Surface tested	Force (N)	Duration force applied (s)

-	-	-	-
-	-	-	-
Supplementary information:			

5.2	TABLE: Classification of electrical energy sources	P

5.2.2.2 – Steady State Voltage and Current conditions

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	-57 V d.c.	USB Port	Normal	5.1 Vd.c	-	-	ES1
			Abnormal:	-	-	-	
			Single fault:	5.1 Vd.c	-	-	

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
-	-	-	Normal	-	-	
			Abnormal	-	-	
			Single fault – SC/OC	-	-	

5.2.2.4 - Single Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
-	-	-	Normal	-	-	-	
			Abnormal	-	-	-	
			Single fault – SC/OC	-	-	-	

5.2.2.5 - Repetitive Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
-	-	-	Normal	-	-	-	
			Abnormal	-	-	-	
			Single fault – SC/OC	-	-	-	

Test Conditions:

Normal –

Abnormal -

Supplementary information: SC=Short Circuit, OC=Short Circuit

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
-	Supply voltage (V) ..... :	-38.4 V d.c.	-57.0 V d.c.	-38.4 V d.c.	-57.0 V d.c.	—
-	Ambient T_{min} (°C)..... :	24.3	24.5	-	-	—
-	Ambient T_{max} (°C) ..... :	-	-	55.0	55.0	—
-	Tma (°C) ..... :	55.0	55.0	55.0	55.0	—

Maximum measured temperature T of part/at:	T (°C)				Allowed T_{max} (°C)
1.Ambient	24.3	24.5	55.0	55.0	-
2.DC input connector J3 on UPEUd board	52.4	51.2	83.1	81.7	85
3.Inductor L4 surface on UPEUd board	67.9	65.7	98.6	96.2	130
5.E-Cap C75 on UPEUd board	61.6	62.8	92.3	93.3	105
6.Transformer T1 winding on UPEUd board	82.6	82.8	113.3	113.3	130
7.Transformer T1 core on UPEUd board	70.3	71.4	101.0	101.9	130
8.Transformer T3 winding on UPEUd board	75.5	77.3	106.2	107.8	130
9.Transformer T3 core on UPEUd board	73.0	75.0	103.7	105.5	130
10.Conductor L2 winding on UPEUd board	78.1	82.8	108.8	113.3	130
11.Conductor L2 core on UPEUd board	63.1	64.5	93.8	95.0	130
12.DC output connector J2 on UPEUd board	52.7	54.1	83.4	84.6	85
13.DC input connector J5009 on WD22UBBPg3 board	41.2	42.4	71.9	72.9	85
14.Heat sink of IC U2500 on WD22UBBPg3 board	50.0	50.9	80.7	81.4	130
15.Heat sink of IC U12500 on WD22UBBPg3 board	53.9	54.7	84.6	85.2	130
16.Heat sink of IC U5101 on WD22UBBPg3 board	54.4	55.3	85.1	85.8	130
17.Heat sink of IC U6 on WD22UBBPg3 board	53.6	54.4	84.3	84.9	130
18.Heat sink of IC U1500 on WD22UBBPg3 board	53.0	53.7	83.7	84.2	130
19.Optical heat sink of F5251 on WD22UBBPg3 board	34.3	35.6	65.0	66.1	130
20.Optical heat sink of F5002 on WD22UBBPg3 board	38.4	39.5	69.1	70.0	130
21.DC input connector J5009 on WD22UBBPg4 board	47.9	49.1	78.6	79.6	85
22.Heat sink of IC U2500 on WD22UBBPg4 board	63.0	64.3	93.7	94.8	130
23.Heat sink of IC U2000 on WD22UBBPg4 board	62.8	64.1	93.5	94.6	130
24.Heat sink of IC U5030 on WD22UBBPg4 board	60.2	61.2	90.9	91.7	130
25.Heat sink of IC U5 on WD22UBBPg4 board	57.4	58.8	88.1	89.3	130
26.Heat sink of IC U1500 on WD22UBBPg4 board	60.4	63.1	91.1	93.6	130
27.Heat sink of IC U3000 on WD22UBBPg4 board	60.4	61.9	91.1	92.4	130
28.Optical heat sink of F5001 on WD22UBBPg4 board	54.7	56.0	85.4	86.5	130
29.DC input connector J5009 on WD22UBBPe9s board	51.5	52.8	82.2	83.3	85

30.Heat sink of IC U2500 on WD22UBBPe9s board	65.8	67.3	96.5	97.8	130
31.Heat sink of IC U12500 on WD22UBBPe9s board	66.1	67.6	96.8	98.1	130
32.Heat sink of IC U5101 on WD22UBBPe9s board	63.5	64.8	94.2	95.3	130
33.Heat sink of IC U6 on WD22UBBPe9s board	64.7	66.3	95.4	96.8	130
34.Heat sink of IC U1500 on WD22UBBPe9s board	60.4	61.6	91.1	92.1	130
35.Optical heat sink of F5004 on WD22UBBPe9s board	37.8	39.1	68.5	69.6	130
36.DC input connector J8001 on WD22UMPTg3 board	52.3	53.5	83.0	84.0	85
37.Heat sink of IC U4000 on WD22UMPTg3 board	72.1	73.7	102.8	104.2	130
38.Heat sink of IC U6 on WD22UMPTg3 board	73.2	75.0	103.9	105.5	130
39.Optical heat sink of F10004 on WD22UMPTg3 board	48.9	49.9	79.6	80.4	130
40.Heat sink of IC U24 on WD22UMPTg3 board	68.9	70.6	99.6	101.1	130
41.Top enclosure	37.3	38.2	68.0	68.7	Ref.*
43.Outlet enclosure	46.9	48.0	77.6	78.5	Ref.*
Temperatures of accessible parts in the EUT(The following data is available for reference):					
1.Ambient	24.3	24.5	25.0	25.0	-
41.Top enclosure	37.3	38.2	38.0	38.7	70
43.Outlet enclosure	46.9	48.0	47.6	48.5	70

Supplementary information:

Test with BBU3910 in horizontal condition for TC1.

Test data sheet come from SYBH(A)04937129.

*The test vaules are adjusted to reflect an ambient value of 25°C.

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
-	Supply voltage (V) ..... :	-38.4 V d.c.	-57.0 V d.c.	-38.4 V d.c.	-57.0 V d.c.	—
-	Ambient T_{min} (°C)..... :	25.3	24.2	-	-	—
-	Ambient T_{max} (°C) ..... :	-	-	55.0	55.0	—
-	Tma (°C) ..... :	55.0	55.0	55.0	55.0	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
1.Ambient		25.3	24.2	55.0	55.0	-
2.DC input connector J3 on UPEUd board		54.7	50.2	84.4	81.0	85
3.Inductor L4 surface on UPEUd board		70.2	64.3	99.9	95.1	130
5.E-Cap C75 on UPEUd board		63.2	61.2	92.9	92.0	105
6.Transformer T1 winding on UPEUd board		85.4	81.6	115.1	112.4	130
7.Transformer T1 core on UPEUd board		71.9	69.7	101.6	100.5	130
8.Transformer T3 winding on UPEUd board		77.8	76.1	107.5	106.9	130
9.Transformer T3 core on UPEUd board		73.8	72.5	103.5	103.3	130
10.Conductor L2 winding on UPEUd board		81.2	81.4	110.9	112.2	130
11.Conductor L2 core on UPEUd board		64.4	63.0	94.1	93.8	130
12.DC output connector J2 on UPEUd board		54.1	52.9	83.8	83.7	85
13.DC input connector J5009 on WD22UBBPg3 board		42.4	41.5	72.1	72.3	85
14.Heat sink of IC U2500 on WD22UBBPg3 board		41.6	42.4	71.3	73.2	130
15.Heat sink of IC U12500 on WD22UBBPg3 board		53.8	57.5	83.5	88.3	130
16.Heat sink of IC U5101 on WD22UBBPg3 board		53.4	57.0	83.1	87.8	130
17.Heat sink of IC U6 on WD22UBBPg3 board		51.0	54.5	80.7	85.3	130
18.Heat sink of IC U1500 on WD22UBBPg3 board		45.8	48.0	75.5	78.8	130
19.Optical heat sink of F5251 on WD22UBBPg3 board		35.4	34.3	65.1	65.1	130
20.Optical heat sink of F5002 on WD22UBBPg3 board		38.8	37.5	68.5	68.3	130
21.DC input connector J5009 on WD22UBBPg4 board		48.6	47.6	78.3	78.4	85
22.Heat sink of IC U2500 on WD22UBBPg4 board		63.9	62.6	93.6	93.4	130
23.Heat sink of IC U2000 on WD22UBBPg4 board		63.4	61.9	93.1	92.7	130
24.Heat sink of IC U5030 on WD22UBBPg4 board		61.3	59.9	91.0	90.7	130
25.Heat sink of IC U5 on WD22UBBPg4 board		56.3	55.2	86.0	86.0	130
26.Heat sink of IC U1500 on WD22UBBPg4 board		61.6	60.4	91.3	91.2	130
27.Heat sink of IC U3000 on WD22UBBPg4 board		56.3	55.4	86.0	86.2	130
28.Optical heat sink of F5001 on WD22UBBPg4 board		55.7	54.5	85.4	85.3	130
29.DC input connector J5009 on WD22UBBPe9s board		54.5	53.1	84.2	83.9	85

30.Heat sink of IC U2500 on WD22UBBPe9s board	63.6	65.4	93.3	96.2	130
31.Heat sink of IC U12500 on WD22UBBPe9s board	67.1	69.3	96.8	100.1	130
32.Heat sink of IC U5101 on WD22UBBPe9s board	62.0	63.6	91.7	94.4	130
33.Heat sink of IC U6 on WD22UBBPe9s board	47.7	49.2	77.4	80.0	130
34.Heat sink of IC U1500 on WD22UBBPe9s board	60.7	63.2	90.4	94.0	130
35.Optical heat sink of F5004 on WD22UBBPe9s board	38.8	37.8	68.5	68.6	130
36.DC input connector J8001 on WD22UMPTg3 board	53.8	52.5	83.5	83.3	85
37.Heat sink of IC U4000 on WD22UMPTg3 board	74.2	73.0	103.9	103.8	130
38.Heat sink of IC U6 on WD22UMPTg3 board	73.1	73.1	102.8	103.9	130
39.Optical heat sink of F10004 on WD22UMPTg3 board	49.8	48.6	79.5	79.4	130
40.Heat sink of IC U24 on WD22UMPTg3 board	72.6	71.2	102.3	102.0	130
41.Top enclosure	37.2	36.2	66.9	67.0	Ref.*
43.Outlet enclosure	48.1	46.8	77.8	77.6	Ref.*
Temperatures of accessible parts in the EUT(The following data is available for reference):					
1.Ambient	25.3	24.2	25.0	25.0	-
41.Top enclosure	37.2	36.2	37.2	37.0	70
43.Outlet enclosure	48.1	46.8	48.1	47.6	70

Supplementary information:

Test with BBU3910 in vertical condition for TC1.

Test data sheet come from SYBH(A)04937129.

*The test vaules are adjusted to reflect an ambient value of 25°C.

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
-	Supply voltage (V) ..... :	-38.4 V d.c.	-57.0 V d.c.	-38.4 V d.c.	-57.0 V d.c.	—
-	Ambient T_{min} (°C)..... :	23.8	23.6	-	-	—
-	Ambient T_{max} (°C) ..... :	-	-	55.0	55.0	—
-	Tma (°C) ..... :	55.0	55.0	55.0	55.0	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
1.Ambient		23.8	23.6	55.0	55.0	-
2.DC input connector J3 on UPEUd board		53.1	50.3	84.3	81.7	85
3.Inductor L4 surface on UPEUd board		69.4	64.3	100.6	95.7	130
5.E-Cap C75 on UPEUd board		62.6	61.3	93.8	92.7	105
6.Transformer T1 winding on UPEUd board		84.7	81.6	115.9	113.0	130
7.Transformer T1 core on UPEUd board		71.5	70.0	102.7	101.4	130
8.Transformer T3 winding on UPEUd board		77.3	76.5	108.5	107.9	130
9.Transformer T3 core on UPEUd board		73.7	73.0	104.9	104.4	130
10.Conductor L2 winding on UPEUd board		81.6	81.6	112.8	113.0	130
11.Conductor L2 core on UPEUd board		64.3	63.3	95.5	94.7	130
13.DC input connector J5009 on WD22UBBPg3 board		41.8	41.1	73.0	72.5	85
14.Heat sink of IC U2500 on WD22UBBPg3 board		41.7	41.1	72.9	72.5	130
15.Heat sink of IC U12500 on WD22UBBPg3 board		53.5	53.3	84.7	84.7	130
16.Heat sink of IC U5101 on WD22UBBPg3 board		53.1	52.9	84.3	84.3	130
17.Heat sink of IC U6 on WD22UBBPg3 board		51.3	51.1	82.5	82.5	130
18.Heat sink of IC U1500 on WD22UBBPg3 board		46.1	45.8	77.3	77.2	130
19.Optical heat sink of F5251 on WD22UBBPg3 board		35.4	34.8	66.6	66.2	130
20.Optical heat sink of F5002 on WD22UBBPg3 board		38.7	38.2	69.9	69.6	130
21.DC input connector J5009 on WD22UBBPg4 board		48.3	47.6	79.5	79.0	85
22.Heat sink of IC U2500 on WD22UBBPg4 board		63.2	62.3	94.4	93.7	130
23.Heat sink of IC U2000 on WD22UBBPg4 board		62.6	61.8	93.8	93.2	130
24.Heat sink of IC U5030 on WD22UBBPg4 board		60.8	60.0	92.0	91.4	130
25.Heat sink of IC U5 on WD22UBBPg4 board		55.3	54.4	86.5	85.8	130
26.Heat sink of IC U1500 on WD22UBBPg4 board		60.8	60.0	92.0	91.4	130
27.Heat sink of IC U3000 on WD22UBBPg4 board		56.3	55.5	87.5	86.9	130
28.Optical heat sink of F5001 on WD22UBBPg4 board		55.6	54.8	86.8	86.2	130
30.Heat sink of IC U2500 on WD22UBBPe9s board		62.8	62.1	94.0	93.5	130

31.Heat sink of IC U12500 on WD22UBBPe9s board	66.6	65.8	97.8	97.2	130
32.Heat sink of IC U5101 on WD22UBBPe9s board	61.3	60.6	92.5	92.0	130
33.Heat sink of IC U6 on WD22UBBPe9s board	48.4	47.7	79.6	79.1	130
34.Heat sink of IC U1500 on WD22UBBPe9s board	60.3	59.5	91.5	90.9	130
35.Optical heat sink of F5004 on WD22UBBPe9s board	38.9	38.3	70.1	69.7	130
36.DC input connector J8001 on WD22UMPTg3 board	53.7	52.9	84.9	84.3	85
37.Heat sink of IC U4000 on WD22UMPTg3 board	74.5	73.6	105.7	105.0	130
38.Heat sink of IC U6 on WD22UMPTg3 board	73.2	72.3	104.4	103.7	130
39.Optical heat sink of F10004 on WD22UMPTg3 board	49.9	49.2	81.1	80.6	130
40.Heat sink of IC U24 on WD22UMPTg3 board	72.5	71.6	103.7	103.0	130
41.Top enclosure	37.5	36.8	68.7	68.2	Ref.*
43.Outlet enclosure	47.7	47.0	78.9	78.4	Ref.*
Temperatures of accessible parts in the EUT(The following data is available for reference):					
1.Ambient	23.8	23.6	25.0	25.0	-
41.Top enclosure	37.5	36.8	38.7	38.2	70
43.Outlet enclosure	47.7	47.0	48.9	48.4	70

Supplementary information:

Test with BBU3910 in hang upside down condition for TC1.

Test data sheet come from SYBH(A)04937129.

*The test vaules are adjusted to reflect an ambient value of 25°C.

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
-	Supply voltage (V) ..... :	-38.4 V d.c.	-57.0 V d.c.	-38.4 V d.c.	-57.0 V d.c.	—
-	Ambient T_{min} (°C)..... :	25.0	24.4	-	-	—
-	Ambient T_{max} (°C) ..... :	-	-	55.0	55.0	—
-	Tma (°C) ..... :	55.0	55.0	55.0	55.0	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
1.Ambient		25.0	24.4	55.0	55.0	-
2.DC input connector J3 on UPEUd board		52.3	49.4	82.3	80.0	85
3.Inductor L4 surface on UPEUd board		71.2	66.7	101.2	97.3	130
5.E-Cap C75 on UPEUd board		70.3	69.7	100.3	100.3	105
6.Transformer T1 winding on UPEUd board		87.7	85.9	117.7	116.5	130
7.Transformer T1 core on UPEUd board		72.3	72.1	102.3	102.7	130
8.Transformer T3 winding on UPEUd board		77.1	77.1	107.1	107.7	130
9.Transformer T3 core on UPEUd board		76.5	76.6	106.5	107.2	130
10.Conductor L2 winding on UPEUd board		28.6	28.0	58.6	58.6	130
11.Conductor L2 core on UPEUd board		68.4	69.9	98.4	100.5	130
12.DC output connector J2 on UPEUd board		50.1	49.9	80.1	80.5	125
13.DC input connector J5009 on WD22UBBPg2 board		50.4	50.0	80.4	80.6	85
14.Heat sink of IC U2500 on WD22UBBPg2 board		77.6	77.9	107.6	108.5	130
15.Heat sink of IC U5101 on WD22UBBPg2 board		75.3	75.6	105.3	106.2	130
16.Heat sink of IC U6 on WD22UBBPg2 board		76.8	77.1	106.8	107.7	130
17.Heat sink of IC U1500 on WD22UBBPg2 board		75.6	75.9	105.6	106.5	130
18.Optical heat sink of F5251 on WD22UBBPg2 board		54.9	54.7	84.9	85.3	130
19.Optical heat sink of F5002 on WD22UBBPg2 board		54.3	54.0	84.3	84.6	130
20.DC input connector J8001 on WD22UMPTg board		48.5	48.0	78.5	78.6	85
21.Heat sink of IC U4000 on WD22UMPTg board		60.5	60.3	90.5	90.9	130
22.Heat sink of IC U6 on WD22UMPTg board		61.5	61.5	91.5	92.1	130
23.Optical heat sink of F10004 on WD22UMPTg board		45.1	44.6	75.1	75.2	130
24.Heat sink of IC U24 on WD22UMPTg board		59.0	58.8	89.0	89.4	130
25.Top enclosure		47.7	47.3	77.7	77.9	Ref.*
26.Bottom enclosure		36.7	36.1	66.7	66.7	Ref.*
Temperatures of accessible parts in the EUT(The following data is available for reference):						
1.Ambient		25.0	24.4	25.0	25.0	-
25.Top enclosure		47.7	47.3	47.7	47.9	70
26.Bottom enclosure		36.7	36.1	36.7	36.7	70

Supplementary information:
Test with BBU3910 in horizontal condition for TC2.
Test data sheet come from SYBH(A)04937129.
*The test vaules are adjusted to reflect an ambient value of 25°C.

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Supplementary information:
Note 1: Tma should be considered as directed by appliable requirement
Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
-	Supply voltage (V) ..... :	-38.4 V d.c.	-57.0 V d.c.	-38.4 V d.c.	-57.0 V d.c.	—
-	Ambient T_{min} (°C)..... :	24.2	24.0	-	-	—
-	Ambient T_{max} (°C) ..... :	-	-	55.0	55.0	—
-	Tma (°C) ..... :	55.0	55.0	55.0	55.0	—

Maximum measured temperature T of part/at:	T (°C)				Allowed T_{max} (°C)
1.Ambient	24.2	24.0	55.0	55.0	-
2.DC input connector J3 on UPEUd board	50.4	47.9	81.2	78.9	85
3.Inductor L4 surface on UPEUd board	69.5	64.7	100.3	95.7	130
5.E-Cap C75 on UPEUd board	68.4	68.8	99.2	99.8	105
6.Transformer T1 winding on UPEUd board	86.1	84.5	116.9	115.5	130
7.Transformer T1 core on UPEUd board	70.5	71.2	101.3	102.2	130
8.Transformer T3 winding on UPEUd board	75.3	75.5	106.1	106.5	130
9.Transformer T3 core on UPEUd board	74.4	75.0	105.2	106.0	130
10.Conductor L2 winding on UPEUd board	79.2	81.6	110.0	112.6	130
11.Conductor L2 core on UPEUd board	66.6	68.9	97.4	99.9	130
12.DC output connector J2 on UPEUd board	48.9	48.9	79.7	79.9	125
13.DC input connector J5009 on WD22UBBPg2 board	49.4	49.8	80.2	80.8	85
14.Heat sink of IC U2500 on WD22UBBPg2 board	75.2	81.5	106.0	112.5	130
15.Heat sink of IC U5101 on WD22UBBPg2 board	72.9	78.8	103.7	109.8	130
16.Heat sink of IC U6 on WD22UBBPg2 board	73.5	79.9	104.3	110.9	130
17.Heat sink of IC U1500 on WD22UBBPg2 board	73.0	79.2	103.8	110.2	130
18.Optical heat sink of F5251 on WD22UBBPg2 board	54.0	53.7	84.8	84.7	130

19.Optical heat sink of F5002 on WD22UBBPg2 board	53.5	53.3	84.3	84.3	130
20.DC input connector J8001 on WD22UMPTg board	48.0	47.9	78.8	78.9	85
21.Heat sink of IC U4000 on WD22UMPTg board	59.4	63.1	90.2	94.1	130
22.Heat sink of IC U6 on WD22UMPTg board	59.8	65.6	90.6	96.6	130
23.Optical heat sink of F10004 on WD22UMPTg board	44.2	44.1	75.0	75.1	130
24.Heat sink of IC U24 on WD22UMPTg board	57.8	62.2	88.6	93.2	130
25.Top enclosure	48.1	49.1	78.9	80.1	Ref.*
26.Bottom enclosure	35.6	35.4	66.4	66.4	Ref.*
Temperatures of accessible parts in the EUT(The following data is available for reference):					
1.Ambient	24.2	24.0	25.0	25.0	-
25.Top enclosure	48.1	49.1	48.9	50.1	70
26.Bottom enclosure	35.6	35.4	36.4	36.4	70

Supplementary information:

Test with BBU3910 in vertical condition for TC2.

Test data sheet come from SYBH(A)04937129.

*The test vaules are adjusted to reflect an ambient value of 25°C.

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
-	Supply voltage (V) ..... :	-38.4 V d.c.	-57.0 V d.c.	-38.4 V d.c.	-57.0 V d.c.	—
-	Ambient T_{min} (°C)..... :	24.2	24.0	-	-	—
-	Ambient T_{max} (°C) ..... :	-	-	55.0	55.0	—
-	Tma (°C) ..... :	55.0	55.0	55.0	55.0	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
1.Ambient		25.1	25.1	55.0	55.0	-
2.DC input connector J3 on UPEUd board		51.6	49.2	81.5	79.1	85
3.Inductor L4 surface on UPEUd board		70.8	66.4	100.7	96.3	130
5.E-Cap C75 on UPEUd board		72.5	69.4	102.4	99.3	105
6.Transformer T1 winding on UPEUd board		86.6	86.3	116.5	116.2	130

7.Transformer T1 core on UPEUd board	70.8	72.3	100.7	102.2	130
8.Transformer T3 winding on UPEUd board	77.1	77.4	107.0	107.3	130
9.Transformer T3 core on UPEUd board	77.8	76.8	107.7	106.7	130
10.Conductor L2 winding on UPEUd board	80.3	83.7	110.2	113.6	130
11.Conductor L2 core on UPEUd board	67.2	69.7	97.1	99.6	130
12.DC output connector J2 on UPEUd board	50.1	50.6	80.0	80.5	125
13.DC input connector J5009 on WD22UBBPg2 board	54.5	50.7	84.4	80.6	85
14.Heat sink of IC U2500 on WD22UBBPg2 board	98.4	78.6	128.3	108.5	130
15.Heat sink of IC U5101 on WD22UBBPg2 board	94.9	76.0	124.8	105.9	130
16.Heat sink of IC U6 on WD22UBBPg2 board	97.2	76.9	127.1	106.8	130
17.Heat sink of IC U1500 on WD22UBBPg2 board	97.1	76.4	127.0	106.3	130
18.Optical heat sink of F5251 on WD22UBBPg2 board	55.1	55.0	85.0	84.9	130
19.Optical heat sink of F5002 on WD22UBBPg2 board	54.6	54.5	84.5	84.4	130
20.DC input connector J8001 on WD22UMPTg board	49.2	49.3	79.1	79.2	85
21.Heat sink of IC U4000 on WD22UMPTg board	65.5	61.7	95.4	91.6	130
22.Heat sink of IC U6 on WD22UMPTg board	74.2	63.2	104.1	93.1	130
23.Optical heat sink of F10004 on WD22UMPTg board	45.8	45.7	75.7	75.6	130
24.Heat sink of IC U24 on WD22UMPTg board	65.5	60.5	95.4	90.4	130
25.Top enclosure	48.3	49.3	78.2	79.2	Ref.*
26.Bottom enclosure	36.2	36.4	66.1	66.3	Ref.*
Temperatures of accessible parts in the EUT(The following data is available for reference):					
1.Ambient	25.1	25.1	25.0	25.0	-
25.Top enclosure	48.3	49.3	48.3	49.3	70
26.Bottom enclosure	36.2	36.4	36.2	36.4	70

Supplementary information:

Test with BBU3910 in hang upside down condition for TC2.

Test data sheet come from SYBH(A)04937129.

*The test vaules are adjusted to reflect an ambient value of 25°C.

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P
-	Supply voltage (V) ..... :	-38.4 V d.c.	-57.0 V d.c.	-38.4 V d.c.	-57.0 V d.c.	—
-	Ambient T_{min} (°C)..... :	23.8	23.2	-	-	—
-	Ambient T_{max} (°C) ..... :	-	-	55.0	55.0	—
-	Tma (°C) ..... :	55.0	55.0	55.0	55.0	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
1.Ambient		23.8	23.2	55.0	55.0	-
2.Main switch on PSU		44.3	43.9	75.5	75.7	85
3.Inductor L4 winding on PSU		47.8	47.0	79.0	78.8	130
4.Inductor L4 core on PSU		48.9	48.4	80.1	80.2	130
5.E-Cap C63 on PSU		51.3	52.4	82.5	84.2	105
6.Transformer T1 winding on PSU		56.0	60.7	87.2	92.5	130
7.Transformer T1 core on PSU		52.6	55.3	83.8	87.1	130
8.Heat Sink MAX on PSU		49.1	49.8	80.3	81.6	130
9.DC output connector J2 on PSU		41.3	41.9	72.5	73.7	85
10.Transformer T2 winding on PSU		54.4	58.2	85.6	90.0	130
11.Transformer T2 core on PSU		53.6	56.6	84.8	88.4	130
12.Transformer T3 winding on PSU		56.8	58.4	88.0	90.2	130
13.Transformer T3 core on PSU		58.7	60.7	89.9	92.5	130
15.IC U10004 on WD24UMPTe5 board		46.7	46.6	77.9	78.4	130
16.Heat Sink MAX on WD24UMPTe5 board		50.2	50.0	81.4	81.8	130
18.DC input connector J7502 on WD22UMPTe5 board		41.9	41.9	73.1	73.7	85
19.IC U4000 on WD22UMPTe5 board		55.3	55.1	86.5	86.9	130
20.Heat Sink MAX on WD22UMPTe5 board		45.1	45.0	76.3	76.8	130
21.DC input connector J5010 on WD22UBBPe3 board		40.6	40.7	71.8	72.5	85
22.IC U5 surface on WD22UBBPe3 board		49.9	49.7	81.1	81.5	130
23.Heat Sink MAX on WD22UBBPe3 board		47.6	47.5	78.8	79.3	130
24.DC input connector J5010 on WD24UBBPe3 board		44.2	44.2	75.4	76.0	85
25.IC U5 surface on WD24UBBPe3 board		58.1	58.0	89.3	89.8	130
26.Heat Sink MAX on WD24UBBPe3 board		50.5	50.6	81.7	82.4	130
27.Top enclosure		29.8	29.6	61.0	61.4	Ref.
28.Right enclosure		47.0	48.0	78.2	79.8	Ref.
29.Back enclosure		34.9	34.9	66.1	66.7	Ref.
Temperatures of accessible parts in the EUT(The following data is available for reference):						
1.Ambient		23.8	23.2	25.0	25.0	-
27.Top enclosure		29.8	29.6	31.0	31.4	70

28.Right enclosure	47.0	48.0	48.2	49.8	70
29.Back enclosure	34.9	34.9	36.1	36.7	70

Supplementary information:

Test with BBU3910 in hang upside down condition for TC3.

Test data sheet come from SYBH(A)05188153.

*The test vaules are adjusted to reflect an ambient value of 25°C.

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
-	Supply voltage (V) ..... :	-38.4 V d.c.	-57.0 V d.c.	-38.4 V d.c.	-57.0 V d.c.	—
-	Ambient T_{min} (°C)..... :	22.6	22.6	-	-	—
-	Ambient T_{max} (°C) ..... :	-	-	55.0	55.0	—
-	Tma (°C) ..... :	55.0	55.0	55.0	55.0	—

Maximum measured temperature T of part/at:	T (°C)				Allowed T_{max} (°C)
1.Ambient	22.6	22.6	55.0	55.0	-
2.Switch Surface of PSU	44.2	43.2	76.6	75.6	85
3.Inductor L4 winding on PSU	66.6	59.5	99.0	91.9	130
4.Inductor L4 core on PSU	65.7	62.9	98.1	95.3	130
5.E-Cap C63 on PSU	67.7	67.9	100.1	100.3	105
6.Transformer T1 winding on PSU	85.5	86.5	117.9	118.9	130
7.Transformer T1 core on PSU	70.0	70.8	102.4	103.2	130
8.Heat Sink max on PSU	62.6	62.7	95.0	95.1	130
9.DC output connector J2 on PSU	45.0	45.2	77.4	77.6	85
10.Transformer T2 winding on PSU	76.0	78.0	108.4	110.4	130
11.Transformer T2 core on PSU	75.6	78.3	108.0	110.7	130
12.Transformer T3 winding on PSU	71.1	71.0	103.5	103.4	130
13.Transformer T3 core on PSU	72.7	73.3	105.1	105.7	130
14.DC input connector J5010 on WD22UBBPg2 board	45.2	45.0	77.6	77.4	85
15.Heat Sink max on WD22UBBPg2 board	66.8	66.6	99.2	99.0	130
16.IC surface U6 on WD22UBBPg2 board	25.7	25.3	58.1	57.7	130
17.IC surface U1500 on WD22UBBPg2 board	80.2	80.1	112.6	112.5	130

18.DC intput connector J5010 on WD22UMPTg3 board	44.5	44.6	76.9	77.0	85
19.Heat Sink max on WD22UMPTg3 board	56.5	56.4	88.9	88.8	130
20.IC surface U6 on WD22UMPTg3 board	54.7	54.7	87.1	87.1	130
21.IC surface U1500 on WD22UMPTg3 board	53.2	53.0	85.6	85.4	130
25.Top enclosure	42.9	42.7	75.3	75.1	Ref.
27.Right enclosure	63.9	64.2	96.3	96.6	Ref.
28.Back enclosure	32.6	32.6	65.0	65.0	Ref.
Temperatures of accessible parts in the EUT(The following data is available for reference):					
1.Ambient	22.6	22.6	25.0	25.0	-
25.Top enclosure	42.9	42.7	45.3	45.1	70
27.Right enclosure	63.9	64.2	66.3	66.6	70
28.Back enclosure	32.6	32.6	35.0	35.0	70

Supplementary information:

Test with BBU3910 in hang upside down condition for TC4.

Test data sheet come from SYBH(A)05188153.

*The test vaules are adjusted to reflect an ambient value of 25°C.

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
-	Supply voltage (V) ..... :	-38.4 V d.c.	-57.0 V d.c.	-38.4 V d.c.	-57.0 V d.c.	—
-	Ambient T_{min} (°C)..... :	23.8	23.9	-	-	—
-	Ambient T_{max} (°C) ..... :	-	-	55.0	55.0	—
-	Tma (°C) ..... :	55.0	55.0	55.0	55.0	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
1.Ambient		23.8	23.9	55.0	55.0	-
2.DC input connector of PSU		40.8	40.5	72.0	71.6	85
3.Inductor L1 winding of PSU		57.9	56.0	89.1	87.1	130
4.Transformer T1 winding of PSU		76.8	76.6	108.0	107.7	130
5.Transformer T1 core of PSU		63.1	63.6	94.3	94.7	130
6.Transformer T3 winding of PSU		63.2	64.0	94.4	95.1	130
8.Transformer T3 core of PSU		64.5	65.2	95.7	96.3	130

9.Inductor L2 winding of PSU	69.4	72.6	100.6	103.7	130
10.DC output connector J7503 of PSU	44.6	45.0	75.8	76.1	85
12.DC input connector J5009 on WD24UBBPg2 board	42.8	43.1	74.0	74.2	85
13.Heat Sink U6 on WD24UBBPg2 board	60.0	60.2	91.2	91.3	130
14.Heat Sink U2500 on WD24UBBPg2 board	62.6	62.7	93.8	93.8	130
15.Heat Sink of Optical connector J5035 on WD24UBBPg2 board	43.7	43.8	74.9	74.9	130
16.DC input connector J8000 on WD24MPTg3 board	42.7	43.1	73.9	74.2	85
17.Heat Sink max on WD24MPTg3 board	53.1	53.5	84.3	84.6	130
18.Heat Sink on WD24MPTg3 board	52.9	53.5	84.1	84.6	130
19.Top enclosure	40.0	40.7	71.2	70.8	Ref.
20.Right enclosure	61.0	61.4	92.2	92.5	Ref.
21.Rear enclosure	30.8	31.3	62.0	62.4	Ref.
22.Front enclosure	36.0	36.0	67.2	67.1	Ref.
Temperatures of accessible parts in the EUT(The following data is available for reference):					
1.Ambient	23.8	23.9	25.0	25.0	-
19.Top enclosure	40.0	40.7	41.2	40.8	80
20.Right enclosure	61.0	61.4	62.2	62.5	80
21.Rear enclosure	30.8	31.3	32.0	32.4	80
22.Front enclosure	36.0	36.0	37.2	37.1	80

Supplementary information:

Test with BBU3910 in hang upside down condition for TC6.

Test data sheet come from SYBH(A)05624156.

*The test vaules are adjusted to reflect an ambient value of 25°C.

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
-	Supply voltage (V) ..... :	-38.4 V d.c.	-57.0 V d.c.	-38.4 V d.c.	-57.0 V d.c.	—
-	Ambient T_{min} (°C)..... :	24.2	24.4	-	-	—
-	Ambient T_{max} (°C) ..... :	-	-	55.0	55.0	—
-	Tma (°C) ..... :	55.0	55.0	55.0	55.0	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
1.Ambient		24.2	24.4	55.0	55.0	-
2.DC input connector of PSU		46.3	44.1	77.1	74.7	85
3.Inductor L5 winding of PSU		66.2	63.1	97.0	93.7	130
4.Transformer T3 winding of PSU		66.7	67.1	97.5	97.7	130
5.Transformer T3 core of PSU		67.3	67.8	98.1	98.4	130
6.Transformer T1 winding of PSU		78.8	78.2	109.6	108.8	130
7.Transformer T1 core of PSU		66.2	65.9	97.0	96.5	130
8.Inductor L2 winding of PSU		70.5	74.1	101.3	104.7	130
9.DC output connector J7503 of PSU		46.6	46.4	77.4	77.0	85
10.DC input connector J5009 on WD24BBPg3 board		39.3	38.9	70.1	69.5	85
11.Heat Sink of IC U6 on WD24BBPg3 board		52.5	52.3	83.3	82.9	130
12.Heat Sink of optical connector J5035 on WD24BBPg3 board		34.4	33.9	65.2	64.5	130
13.DC input connector J5010 on WD24UBBPe6 board		48.6	48.1	79.4	78.7	130
14.Heat Sink of IC U5 on WD24UBBPe6 board		66.4	66.1	97.2	96.7	130
15.Heat Sink of IC U2500 on WD24UBBPe6 board		61.2	60.8	92.0	91.4	130
16.DC input connector J5014 on WD23UBBPg1 board		45.5	45.1	76.3	75.7	85
17.Heat Sink of IC U27 on WD23UBBPg1 board		67.4	67.3	98.2	97.9	130
18.DC input connector J26 on WD22USCUC board		43.6	43.2	74.4	73.8	85
19.IC surface U29 on WD22USCUC board		51.4	51.3	82.2	81.9	130
20.Inductor L2 winding on WD22USCUC board		53.8	53.4	84.6	84.0	130
21.Inductor L2 core on WD22USCUC board		54.1	53.7	84.9	84.3	130
22.DC input connector J7502 on WD22UMPTe5 board		46.1	45.8	76.9	76.4	85
23.Heat Sink of IC U5 on WD22UMPTe5 board		53.2	53.0	84.0	83.6	130

24.IC surface U4000 on WD22UMPTe5 board	61.4	61.1	92.2	91.7	130
25.Top enclosure	46.6	46.2	77.4	76.8	Ref.
26.Right enclosure	56.1	56.0	86.9	86.6	Ref.
27.Rear enclosure	34.4	34.1	65.2	64.7	Ref.
28.Front enclosure	40.9	39.6	71.7	70.2	Ref.
Temperatures of accessible parts in the EUT(The following data is available for reference):					
1.Ambient	24.2	24.4	25.0	25.0	-
25.Top enclosure	46.6	46.2	47.4	46.8	80
26.Right enclosure	56.1	56.0	56.9	56.6	80
27.Rear enclosure	34.4	34.1	35.2	34.7	80
28.Front enclosure	40.9	39.6	41.7	40.2	80

Supplementary information:

Test with BBU3910 in hang upside down condition for TC7.

Test data sheet come from SYBH(A)05624156.

*The test vaules are adjusted to reflect an ambient value of 25°C.

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.10.2	**TABLE: Vicat softening temperature of thermoplastics**		N/A
Penetration (mm)..... :	-		—
Object/ Part No./Material	Manufacturer/trademark	T softening (°C)	
-	-	-	
-	-	-	
-	-	-	

Supplementary information:

5.4.1.10.3	**TABLE: Ball pressure test of thermoplastics**		N/A
Allowed impression diameter (mm) ..... :	≤ 2 mm		—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)
-	-	-	-
-	-	-	-
-	-	-	-

Supplementary information:

5.4.2.2, 5.4.2.4 and 5.4.3	**TABLE: Minimum Clearances/Creepage distance**						N/A
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)[1]	Required cl (mm)	cl (mm) [2]	Required[3] cr (mm)	cr (mm)
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
Supplementary information: Note 1: Only for frequency above 30 kHz Note 2: See table 5.4.2.4 if this is based on electric strength test Note 3: Provide Material Group							

5.4.2.3	**TABLE: Minimum Clearances distances using required withstand voltage**	N/A
	Overvoltage Category (OV) ..... :	
	Pollution Degree..... :	

Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Supplementary information:

5.4.2.4	**TABLE: Clearances based on electric strength test**	N/A

Test voltage applied between:	Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Supplementary information:

5.4.4.2, 5.4.4.5 c) 5.4.4.9	**TABLE: Distance through insulation measurements**	N/A

Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

Supplementary information:

5.4.9	TABLE: Electric strength tests		P
Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes/No
Functional:			
DC input to PE	DC	1500	No
DC input to GE output	DC	1500	No
Basic/supplementary:			
-	-	-	-
-	-	-	-
Reinforced:			
-	-	-	-
-	-	-	-
Routine Tests:			
-	-	-	-
-	-	-	-

Supplementary information:

1. Test was conducted with these components disconnected: Gas tube D12 of UPEUd PSU.

2. Test data sheet come from SYBH(A)04937129.

5.5.2.2	TABLE: Stored discharge on capacitors				N/A
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

Supplementary information:

X-capacitors installed for testing are:

☐ bleeding resistor rating:

☐ ICX:

Notes:

A. Test Location:

Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth

B. Operating condition abbreviations:

N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition

5.6.6.2	TABLE: Resistance of protective conductors and terminations			P
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
Main PE to the farthest enclosure	50	2	0.48	-
Supplementary information: Test data sheet come from SYBH(A) 04937129.				

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		N/A
Supply voltage .....:			—
Location		Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
-		1	-
		2	-
		3	-
		4	-
		5	-
		6	-
		8	-

Supplementary Information:

Notes:
[1] Supply voltage is the anticipated maximum Touch Voltage

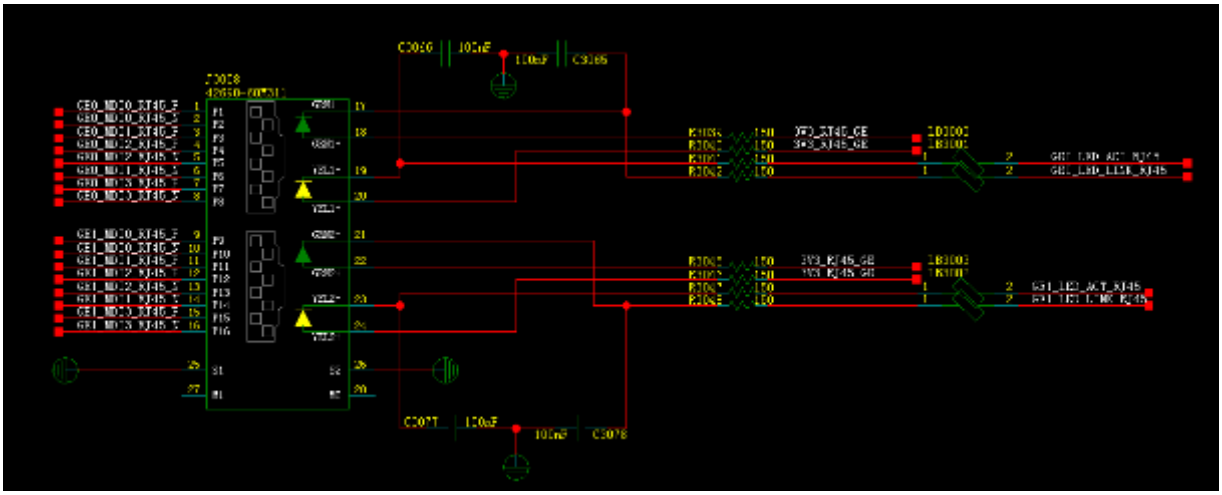
[2] Earthed neutral conductor [Voltage differences less than 1% or more]

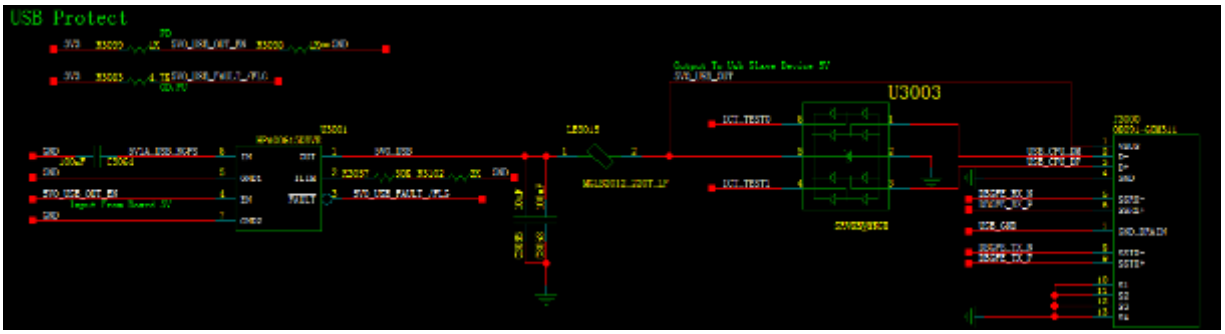
[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3

[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.

[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.

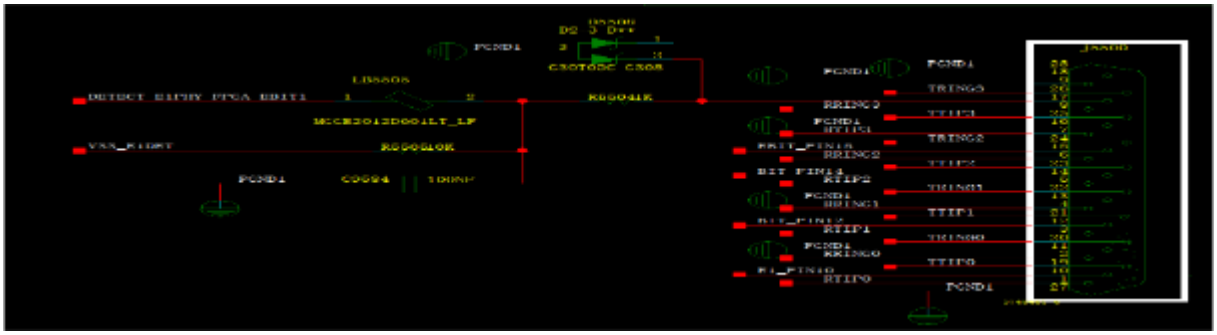
6.2.2	TABLE: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification
FE/GE ports circuits	FE/GE ports of WD22UMPTg (All pins to each other)	Power (W) ....:	0	0	PS1
		VA (V) .....:	0	0	
		IA (A) .....:	0	0	
ETX-ALM ports circuits	ETX-ALM ports of WD2MUPEUd (All pins to each other)	Power (W) .....:	0	0	PS1
		VA (V).....:	0	0	
		IA (A) .....:	0	0	
MON ports circuits	MON ports of WD2MUPEUd (All pins to each other)	Power (W) ....:	0	0	PS1
		VA (V) .....:	0	0	
		IA (A) .....:	0	0	
USB ports circuits	USB ports of WD22UMPTg	Power (W) .....:	3.5	3.5	PS1
		VA (V).....:	4.48	4.48	
		IA (A) .....:	0.78	0.78	
FE/GE ports circuits	FE/GE ports of WD22UMPTg (All pins to each other)	Fault condition: R3045 short-circuit			
		Power (W) ....:	0	0	PS1
		VA (V) .....:	0	0	
		IA (A) .....:	0	0	
ETX-ALM ports circuits	ETX-ALM ports of WD2MUPEUd (All pins to each other)	Fault condition: D2 short-circuit			
		Power (W) .....:	0	0	PS1
		VA (V).....:	0	0	
		IA (A) .....:	0	0	
MON ports circuits	MON ports of WD2MUPEUd (All pins to each other)	Fault condition: D16 short-circuit			
		Power (W) ....:	0	0	PS1
		VA (V) .....:	0	0	
		IA (A) .....:	0	0	
USB ports circuits	USB ports of WD22UMPTg	Fault condition: IC U3001 Pin1-Pin6 short-circuit			
		Power (W) .....:	3.5	3.5	PS1
		VA (V).....:	4.48	4.48	
		IA (A) .....:	0.78	0.78	





Supplementary Information: Test data sheet come from SYBH(A)04937129.
(*) Measurement taken only when limits at 3 seconds exceed PS1 limits

6.2.2	TABLE: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification
E1/T1 ports circuits	E1/T1 ports of WD22GTMUc	Power (W) ....:	0	0	PS1
		VA (V).....:	3.3	3.3	
		IA (A) .....:	0	0	
E1/T1 ports circuits	E1/T1 ports of WD22GTMUc	Fault condition: R5504 Pin1-Pin2 short-circuit			
		Power (W) ....:	0	0	PS1
		VA (V).....:	3.3	3.3	
		IA (A) .....:	0	0	



Supplementary Information: Test data sheet come from SYBH(A)05932210.

(*) Measurement taken only when limits at 3 seconds exceed PS1 limits

6.2.3.1	TABLE: Determination of Potential Ignition Sources (Arcing PIS)				P
Location	Open circuit voltage After 3 s (Vp)	Measured r.m.s current (Irms)	Calculated value (V_p x I_{rms})	Arcing PIS? Yes / No	
All circuits	-	-	-	Yes	

Supplementary information:

An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.

Based on the schematic evaluation, the arcing PIS is considered to be located in PS2 circuit area without measurement. No test were deemed necessary

6.2.3.2	TABLE: Determination of Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
All circuits	-	-	-	-	Yes

Supplementary Information:

A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.

If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.

A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

Resistive PIS is considered to be located in PS2 area without measurements. No test were deemed necessary.

8.5.5	TABLE: High Pressure Lamp		N/A
Description	Values	Energy Source Classification	
Lamp type .....:	-	—	
Manufacturer .....:	-	—	
Cat no. .....:	-	—	
Pressure (cold) (MPa) .....:	-	MS_	
Pressure (operating) (MPa) .....:	-	MS_	
Operating time (minutes) .....:	-	—	
Explosion method .....:	-	—	
Max particle length escaping enclosure (mm) .:	-	MS_	

Max particle length beyond 1 m (mm).....:	-	MS_
Overall result .....:	-	
Supplementary information:		

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
-38.4 V d.c.	30.10	-	1155.8	-	-	-	Max.normal load
-48 V d.c.	24.00	25	1152.0	-	-	-	Max.normal load
-57 V d.c.	20.20	-	1151.4	-	-	-	Max.normal load
Supplementary information: Test with BBU3910 for TC1, data sheet come from SYBH(A) 04937129. Equipment may be have rated current or rated power or both. Both should be measured.							

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
-38.4 V d.c.	31.77	-	1220.0	-	-	-	Max.normal load
-48 V d.c.	25.40	25	1219.2	-	-	-	Max.normal load
-57 V d.c.	21.40	-	1219.8	-	-	-	Max.normal load
Supplementary information: Test with BBU3910 for TC2, data sheet come from SYBH(A) 04937129. Equipment may be have rated current or rated power or both. Both should be measured.							

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
-38.4 V d.c.	11.92	-	457.1	-	-	-	Max.normal load
-48 V d.c.	9.59	25	459.2	-	-	-	Max.normal load
-57 V d.c.	8.11	-	459.7	-	-	-	Max.normal load
Supplementary information: Test with BBU3910 for TC3, data sheet come from SYBH(A)05188153. Equipment may be have rated current or rated power or both. Both should be measured.							

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
-38.4 V d.c.	28.50	-	1054.8	-	-	-	Max.normal load
-48 V d.c.	20.90	25	1003.5	-	-	-	Max.normal load
-57 V d.c.	18.20	-	1035.4	-	-	-	Max.normal load

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
Supplementary information: Test with BBU3910 for TC4, data sheet come from SYBH(A)05188153. Equipment may be have rated current or rated power or both. Both should be measured.							

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
-38.4 V d.c.	13.56	-	505.5	-	-	-	Max.normal load for PSU1
-48 V d.c.	10.60	25	505.0	-	-	-	Max.normal load for PSU1
-57 V d.c.	8.90	-	506.0	-	-	-	Max.normal load for PSU1
-38.4 V d.c.	13.24	-	505.8	-	-	-	Max.normal load for PSU2
-48 V d.c.	10.56	25	505.0	-	-	-	Max.normal load for PSU2
-57 V d.c.	8.96	-	506.3	-	-	-	Max.normal load for PSU2
Supplementary information: Test with BBU3910 for TC4, data sheet come from SYBH(A)05188153. Equipment may be have rated current or rated power or both. Both should be measured.							

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
-38.4 V d.c.	13.02	-	-	-	-	-	Max.normal load for PSU1
-48 V d.c.	10.27	25	-	-	-	-	Max.normal load for PSU1
-57 V d.c.	8.60	-	-	-	-	-	Max.normal load for PSU1
-38.4 V d.c.	13.10	-	-	-	-	-	Max.normal load for PSU2
-48 V d.c.	10.31	25	-	-	-	-	Max.normal load for PSU2
-57 V d.c.	8.60	-	-	-	-	-	Max.normal load for PSU2
Supplementary information: Test with BBU3910 for TC9, data sheet come from SYBH(A)06639458. Equipment may be have rated current or rated power or both. Both should be measured.							

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....:			22.5					—
Power source for EUT: Manufacturer, model/type, output rating .:			-					—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (mins)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
DC input	REVERSED	-48 Vdc	15 mins	-	-	-	-	EUT do not work. No hazards. NC NT
Openings of enclosure	Blocked ventilation openings	-57 Vd.c	168	-	-	-	T1 winding: 133.6 °C T1 core: 129.8 °C T3 winding: 135.9 °C T1 core: 137.1 °C Enclosure: 68.9 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT. in horizontal condition
Openings of enclosure	Blocked ventilation openings	-57 Vd.c	164	-	-	-	T1 winding: 131.7 °C T1 core: 129.1 °C T3 winding: 134.0 °C T3 core: 134.7 °C Enclosure: 67.5 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in vertical condition
Openings of enclosure	Blocked ventilation openings	-57 Vd.c	154	-	-	-	T1 winding: 123.6 °C T1 core: 119.9 °C T3 winding: 125.6 °C T3 core: 125.4 °C Enclosure: 66.3 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in hang upside down condition
FAN	Fan malfunction test	-57 Vd.c	171	-	-	-	T1 winding: 123.0 °C T1 core: 108.9 °C T3 winding: 135.9 °C T3 core: 137.1 °C Enclosure: 65.4 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in horizontal condition
FAN	Fan malfunction test	-57 Vd.c	279	-	-	-	T1 winding: 122.6 °C T1 core: 117.6 °C T3 winding: 123.6 °C T3 core: 124.9 °C Enclosure: 65.3 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in vertical condition

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....:			22.5					—
Power source for EUT: Manufacturer, model/type, output rating .:			-					—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (mins)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
FAN	Fan malfunction test	-57 Vd.c	215	-	-	-	T1 winding: 122.5 °C T1 core: 106.0 °C T3 winding: 118.3 °C T3 core: 117.6 °C Enclosure: 65.9 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in hang upside down condition
Supplementary information: Test with BBU3910 for TC1, data sheet come from SYBH(A) 04937129. Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.								

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....:			22.5					—
Power source for EUT: Manufacturer, model/type, output rating .:			-					—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (mins)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
DC input	REVERSED	-48 Vdc	15 mins	-	-	-	-	EUT do not work. No hazards. NC NT
Openings of enclosure	Blocked ventilation openings	-57 Vd.c	163	-	-	-	T1 winding: 136.1 °C T1 core: 124.8 °C T3 winding: 133.4 °C T3 core: 133.2 °C Enclosure: 68.9 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT. in horizontal condition
Openings of enclosure	Blocked ventilation openings	-57 Vd.c	190	-	-	-	T1 winding: 131.5 °C T1 core: 122.1 °C T3 winding: 131.9 °C T3 core: 128.3 °C Enclosure: 64.8 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in vertical condition

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....:			22.5					—
Power source for EUT: Manufacturer, model/type, output rating .:			-					—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (mins)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Openings of enclosure	Blocked ventilation openings	-57 Vd.c	119	-	-	-	T1 winding: 136.9 °C T1 core: 125.6 °C T3 winding: 134.4 °C T3 core: 130.0 °C Enclosure: 65.5 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in hang upside down condition
FAN	Fan malfunction test	-57 Vd.c	240	-	-	-	T1 winding: 129.2 °C T1 core: 108.7 °C T3 winding: 121.4 °C T3 core: 121.5 °C Enclosure: 62.5 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in horizontal condition
FAN	Fan malfunction test	-57 Vd.c	240	-	-	-	T1 winding: 130.8 °C T1 core: 116.2 °C T3 winding: 127.5 °C T3 core: 124.6 °C Enclosure: 69.4 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in vertical condition
FAN	Fan malfunction test	-57 Vd.c	270	-	-	-	T1 winding: 130.5 °C T1 core: 108.9 °C T3 winding: 120.6 °C T3 core: 107.1 °C Enclosure: 63.5 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in hang upside down condition
Supplementary information: Test with BBU3910 for TC2, data sheet come from SYBH(A) 04937129. Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.								

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....:			22.5					—
Power source for EUT: Manufacturer, model/type, output rating .:			-					—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (mins)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Openings of enclosure	Blocked ventilation openings	-57 Vd.c	190	-	-	-	T1 winding: 132.3 °C T1 core: 124.9 °C T3 winding: 133.6 °C T1 core: 135.2 °C Enclosure: 65.9 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT. in hang upside down condition
FAN	Fan malfunction test	-57 Vd.c	215	-	-	-	T1 winding: 101.7 °C T1 core: 97.9 °C T3 winding: 100.3 °C T3 core: 102.4 °C Enclosure: 62.4 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in hang upside down condition
Supplementary information: Test with BBU3910 in hang upside down condition for TC3, data sheet come from SYBH(A)05188153. Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.								

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....:			22.5					—
Power source for EUT: Manufacturer, model/type, output rating .:			-					—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (mins)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Openings of enclosure	Blocked ventilation openings	-57 Vd.c	99	-	-	-	T1 winding: 145.0 °C T1 core: 131.5 °C T3 winding: 136.9 °C T1 core: 139.0 °C Enclosure: 66.8 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT. in hang upside down condition

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....:			22.5					—
Power source for EUT: Manufacturer, model/type, output rating .:			-					—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (mins)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
FAN	Fan malfunction test	-57 Vd.c	107	-	-	-	T1 winding: 135.0 °C T1 core: 109.8 °C T3 winding: 111.3 °C T3 core: 114.4 °C Enclosure: 66.9 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in hang upside down condition
Supplementary information: Test with BBU3910 for TC4, data sheet come from SYBH(A) 05188153. Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.								

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....:			22.5					—
Power source for EUT: Manufacturer, model/type, output rating .:			-					—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (mins)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Openings of enclosure	Blocked ventilation openings	-57 Vd.c	180	-	-	-	T1 winding: 134.8 °C T1 core: 123.8 °C T3 winding: 130.6 °C T3 core: 130.3 °C Enclosure: 77.8 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT. in hang upside down condition for TC6.
Openings of enclosure	Blocked ventilation openings	-57 Vd.c	217	-	-	-	T1 winding: 133.5 °C T1 core: 127.9 °C T3 winding: 129.4 °C T3 core: 132.0 °C Enclosure: 79.0 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT. in hang upside down condition for TC7.

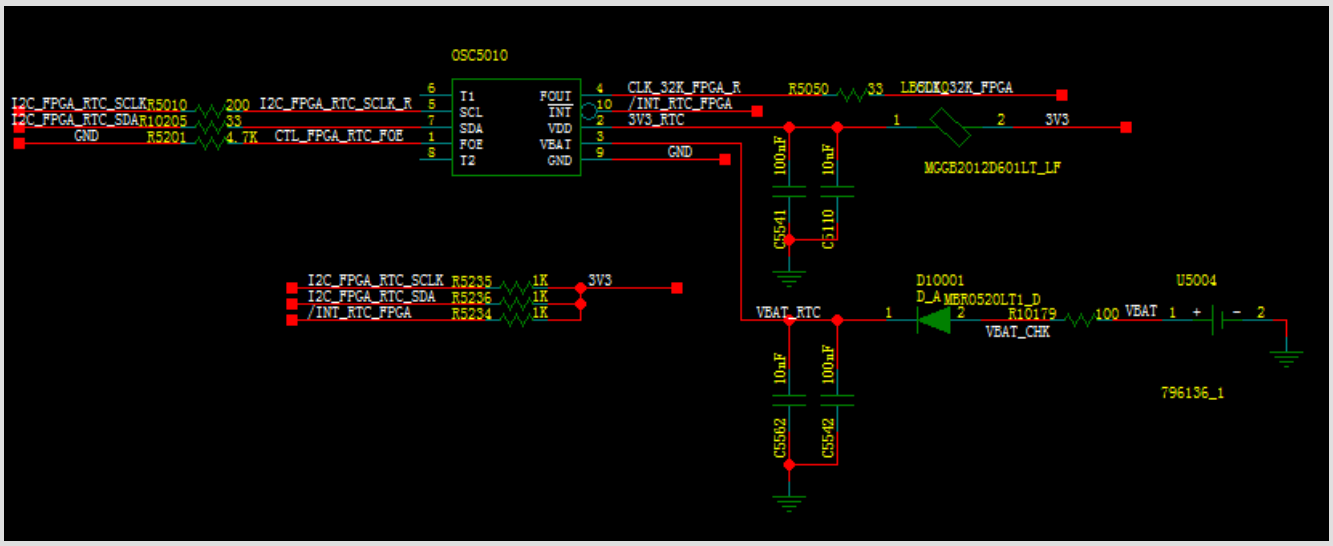
B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....:			22.5					—
Power source for EUT: Manufacturer, model/type, output rating .:			-					—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (mins)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
FAN	Fan malfunction test	-57 Vd.c	104	-	-	-	T1 winding: 129.9 °C T1 core: 105.4 °C T3 winding: 112.9 °C T3 core: 112.8 °C Enclosure: 62.0 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in hang upside down condition for TC6.
FAN	Fan malfunction test	-57 Vd.c	104	-	-	-	T1 winding: 115.3 °C T1 core: 96.4 °C T3 winding: 105.2 °C T3 core: 109.1 °C Enclosure: 55.8 °C (at 25°C ambient)	When monitoring temperature of EUT reached highest, EUT was protected. The temperature reduce until thermal equilibrium. No hazards. NC,NB, NT in hang upside down condition for TC7.
Supplementary information: Test with BBU3910 for hang upside down condition, data sheet come from SYBH(A) 05624156. Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.								

B.4	TABLE: Fault condition tests							P
Ambient temperature (°C) .....:			22.3					—
Power source for EUT: Manufacturer, model/type, output rating .:			-					—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
C83	Pin1-Pin2 S/C	-57	15	-	-	-	-	63 A Breaker action at once after S/C. EUT can restart up.Test performed 3 times with same results.No hazards.NC,NT,NB.
T3	Pin1-Pin2 S/C	-57	15	-	-	-	-	EUT shut down at once after S/C. EUT can restart up.Test performed 3 times with same results.No hazards.NC,NT,NB.

T3	Pin3-Pin4 S/C	-57	15	-	-	-	-	EUT normal work after S/C until thermal equilibrium. No hazards.NC,NT,NB.
T3	Pin5-Pin8 S/C	-57	15	-	-	-	-	EUT shut down at once after S/C. EUT can restart up.Test performed 3 times with same results.No hazards.NC,NT,NB.
T1	Pin1-Pin6 S/C	-57	15	-	-	-	-	EUT shut down at once after S/C. EUT can restart up.Test performed 3 times with same results.No hazards.NC,NT,NB.
T1	Pin7-PGND S/C	-57	15	-	-	-	-	EUT shut down at once after S/C. EUT can restart up.Test performed 3 times with same results.No hazards.NC,NT,NB.
T1	Pin11-PGND S/C	-57	15	-	-	-	-	EUT shut down at once after S/C. EUT can restart up.Test performed 3 times with same results.No hazards.NC,NT,NB.
Supplementary information: Test data sheet come from SYBH(A) 04937129.								

Annex M	**TABLE: Batteries**	P
The tests of Annex M are applicable only when appropriate battery data is not available		
Is it possible to install the battery in a reverse polarity position? .....:		

	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	-	-	0mA	-	-	-	-	-	-
Max. current during fault condition	-	-	D10001 S/C 0mA; OSC5010 pin2-pin3 S/C 0mA	-	-	-	-	-	-



Test results:		Pass
- Chemical leaks	-	Pass
- Explosion of the battery	-	Pass
- Emission of flame or expulsion of molten metal	-	Pass
- Electric strength tests of equipment after completion of tests	-	Pass
Supplementary information: Test data sheet come from SYBH(A) 04937129.		

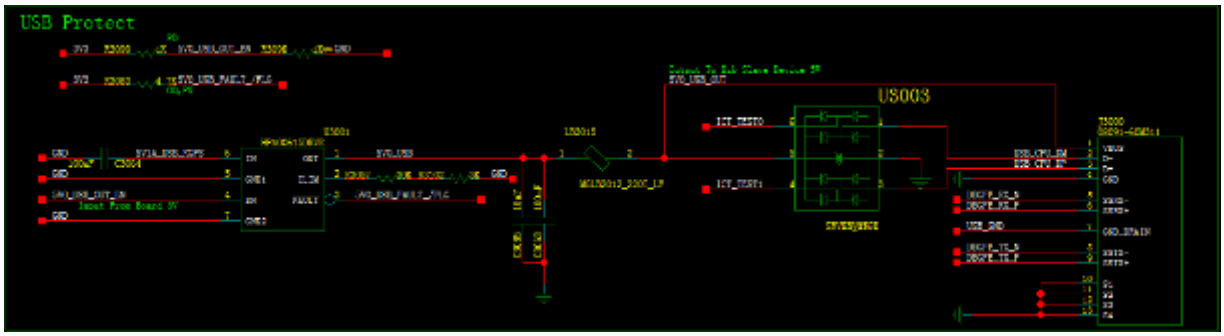
Annex M.4	**TABLE: Additional safeguards for equipment containing secondary lithium batteries**	N/A

Battery/Cell No.	Test conditions	Measurements			Observation
		U	I (A)	Temp (C)	
-	-	-	-	-	No damage

-	-	-	-	-	No damage
-	-	-	-	-	No damage
Supplementary Information:					

Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Supplementary Information:				

Annex Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**					P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U_{oc} (V)	I_{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
5.0 Vd.c	Normal	5.10 Vd.c	0.78 A	8	3.50 W	100 W
5.0 Vd.c	U3001 Pin1-Pin6 S/C	5.10 Vd.c	3.42 A	8	15.3 W	100 W



Supplementary Information: Test data sheet come from SYBH(A) 04937129.
SC=Short circuit, OC=Open circuit

T.2, T.3, T.4, T.5	**TABLE: Steady force test**				**P**
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation
Top enclosure of EUT near DC input part	Fe	Min.2	250	5	No damage
Front enclosure of EUT near DC input part	Fe	Min.2	250	5	No damage

Right enclosure of EUT near DC input part	Fe	Min.2	250	5	No damage
Supplementary information: Test data sheet come from SYBH(A) 04937129.					

T.6, T.9	**TABLE: Impact tests**			**P**
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation
Top enclosure of EUT near DC input part	Fe	Min.2	1300	No damage
Front enclosure of EUT near DC input part	Fe	Min.2	1300	No damage
Right enclosure of EUT near DC input part	steel,	Min.2	1300	No damage
Supplementary information: Test data sheet come from SYBH(A) 04937129.				

T.7	**TABLE: Drop tests**			N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Supplementary information:				

T.8	**TABLE: Stress relief test**				N/A
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
Supplementary information:					

Attachment No. 1

European Group differences and national differences according to EN 62368-1:2014+A11:2017

Attachment contains

Cover page:	1 page
National Differences:	10 pages
Total:	11 pages

Explanation for Abbreviations:
Possible Verdicts: **P** = Pass, **F**= Fail, **N/A**= Not Applicable
Remarks:
Throughout this report, a point is used as the decimal separator.

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	ATTACHMENT TO TEST REPORT **IEC 62368-1** **EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES** (Audio/video, information and communication technology equipment - Part 1: Safety requirements)		
Differences according to ..... : EN 62368-1:2014+A11:2017			
Attachment Form No. ..... : EU_GD_IEC62368_1B_II **Attachment Originator**..... : Nemko AS **Master Attachment**..... : Date 2017-09-22			
Copyright © 2017 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	CENELEC COMMON MODIFICATIONS (EN)		P
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".		P
CONTENTS	**Add** the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P

	Delete all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list: 0.2.1 Note 1 Note 3 4.1.15 Note 4.7.3 Note 1 and 2 5.2.2.2 Note 5.4.2.3.2.2 Table 13 Note c 5.4.2.3.2.4 Note 1 and 3 5.4.2.5 Note 2 5.4.5.1 Note 5.5.2.1 Note 5.5.6 Note 5.6.4.2.1 Note 2 and 3 5.7.5 Note 5.7.6.1 Note 1 and 2 10.2.1 Table 39 Note 2, 3 and 4 10.5.3 Note 2 10.6.2.1 Note 3 F.3.3.6 Note 3	P
	For special national conditions, see Annex ZB.	P
1	**Add** the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.	P

4.Z1	**Add** the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. **mains**, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for **pluggable equipment type B** or **permanently connected equipment**, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for **pluggable equipment type A** the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		N/A

5.4.2.3.2.4	**Add** the following to the end of this subclause: The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.		N/A
10.2.1	Add the following to c) and d) in table 39: For additional requirements, see 10.5.1.		N/A

10.5.1	**Add** the following after the first paragraph: *For RS 1 compliance is checked by measurement under the following conditions:* *In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.* NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. *The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.* *Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.* *For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.* NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		N/A
10.6.1	**Add** the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		N/A
10.Z1	**Add** the following new subclause after 10.6.5. **10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz** The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566		N/A
G.7.1	**Add** the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		P

Bibliography	**Add** the following standards: **Add** the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		P
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		N/A
4.1.15	**Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **Class I pluggable equipment type A** intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and **accessible** parts, have a marking stating that the equipment shall be connected to an earthed **mains** socket-outlet. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”		N/A
4.7.3	**United Kingdom** To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		N/A

5.2.2.2	**Denmark** After the 2nd paragraph add the following: A warning (marking **safeguard**) for high **touch current** is required if the **touch current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.4.11.1 and Annex G	**Finland and Sweden** To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A
5.5.2.1	**Norway** After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A

5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	**Denmark** **Add** to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. *Justification:* In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.6.4.2.1	**Ireland and United Kingdom** After the indent for **pluggable equipment type A**, the following is added: – the **protective current rating** is taken to be 13 A, this being the largest rating of fuse used in the **mains** plug.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm^2 to 1,5 mm^2 in cross-sectional area.		N/A
5.7.5	**Denmark** To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the **protective conductor current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

5.7.6.1	**Norway and Sweden** To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		N/A
5.7.6.2	**Denmark** To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A

B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of **direct plug-in equipment**, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the **direct plug-in equipment**, until the requirements of Annexes B.3.1 and B.4 are met		N/A
G.4.2	**Denmark** To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a *Justification:* Heavy Current Regulations, Section 6c		N/A
G.4.2	**United Kingdom** To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A

G.7.1	**United Kingdom** To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	**Ireland** To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	**Ireland and United Kingdom** To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm^2 is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

ZC	*ANNEX ZC, NATIONAL DEVIATIONS (EN)*		N/A
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification:* German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de		N/A

Attachment No. 2

System Diagram

Attachment contains

Cover page:	1 page
System diagram:	1 page
Total:	2 pages

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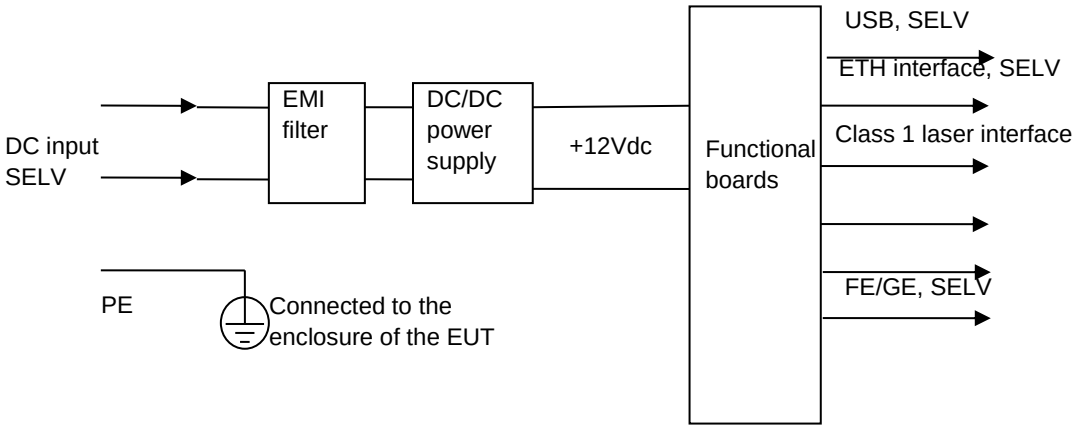
System diagram



Attachment No.3

Photographs

Attachment contains

(Total 68 Pages including this Cover Page)

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Photo-02	Rear, bottom and left view of BBU3910
Photo-03	Interface of BBU3910
Photo-04	Main PE terminal
Photo-05	Front, top and right view of WD2MUPEUd2/ WD2MUPEUd PSU
Photo-06	Rear, bottom and left view of WD2MUPEUd2/ WD2MUPEUd PSU
Photo-07	Interface of WD2MUPEUd2 PSU
Photo-08	Rear, bottom and left view of WD2E1FANE / WD2E2FANE/ WD2E3FANE box
Photo-09	Front, top and right view of WD2E1FANE / WD2E2FANE/ WD2E3FANE box
Photo-10	Front view of FAN box
Photo-11	Top view of WD22UBBPg2/ WD22UBBPg2a/ WD22UBBPg3/ WD22UBBPg3a/ WD22UBBPg3BT/WD26UBBPg2ac/WD26UBBPg2a/ WD26UBBPg2/ WD2DUBBPG2C0/WD2DUBPG2AUK/WD2DUBBPG2UK board
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Photo-17	Top view of WD22UBBPe9s board

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Photo-25	Top view of WD22UMPTe1/ WD22UMPTe4/ WD22UMPTe5/ WD26UMPTe1/ WD26UMPTe4/ WD26UMPTe5/ WD22UMPTe2/ WD22UMPTes/ WD22UMPTe/ WD23UMPTe2 board
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Photo-44	Top view of WD24UBBPg3/ WD24UBBPg2/ WD24UBBPg3a / WD24UBBPg2a/ WD2DUBBPG3L0/ WD2DUBBPG3B0/ WD22UBBPg1a/ WD2DUBBPG1A0 board
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Photo-47	Bottom view of WD22UBBPe5/ WD22UBBPe6/ WD22UBBPea / WD22UBBPeas / WD26UBBPe6c/ WD26UBBPea/ WD23UBBPex2/WD22UBBPe9/ WD21LCOP board
Photo-48	Top view of WD25UMPTe5/ WD23UMPTe / WD23UMPTe4/ WD23UMPTe5/ WD22UMPTe3/ WD23UMPTe3 board
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Photo-01, Front, top and right view of BBU3910

Photo-02, Rear, bottom and left view of BBU3910

Photo-03, Interface of BBU3910

Photo-04, Main PE terminal

Photo-05, Front, top and right view of WD2MUPEUd2/ WD2MUPEUd PSU

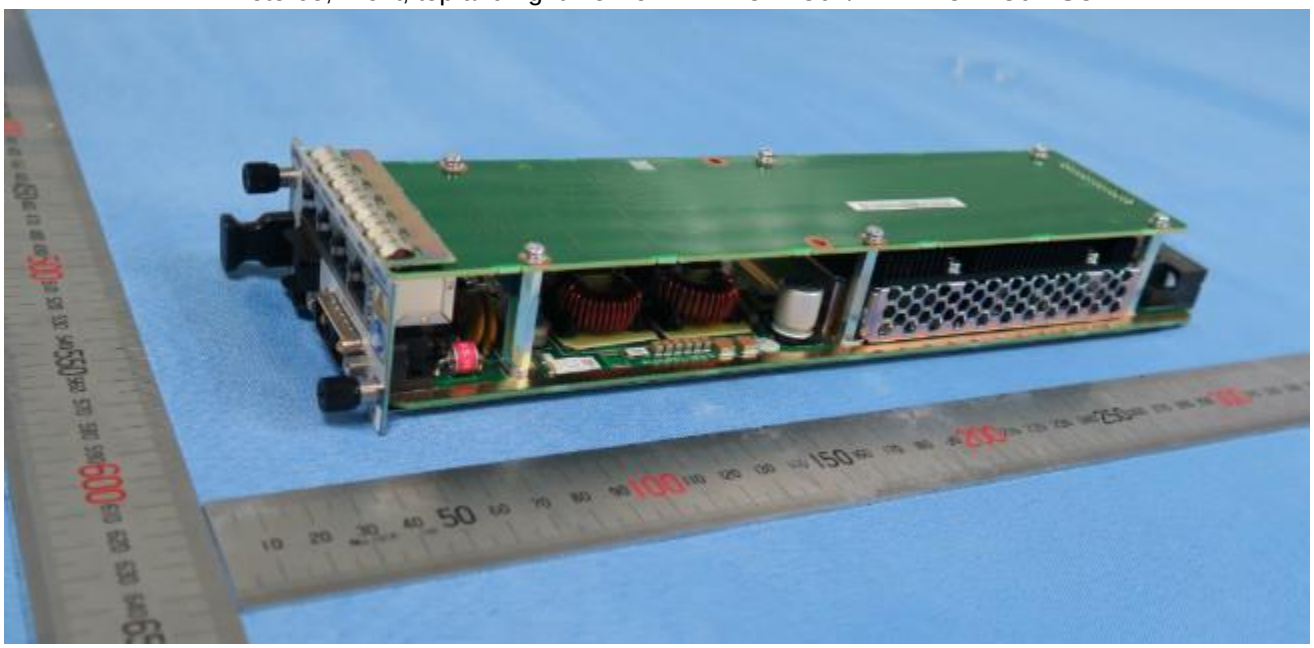


Photo-06, Rear, bottom and left view of WD2MUPEUd2/ WD2MUPEUd PSU

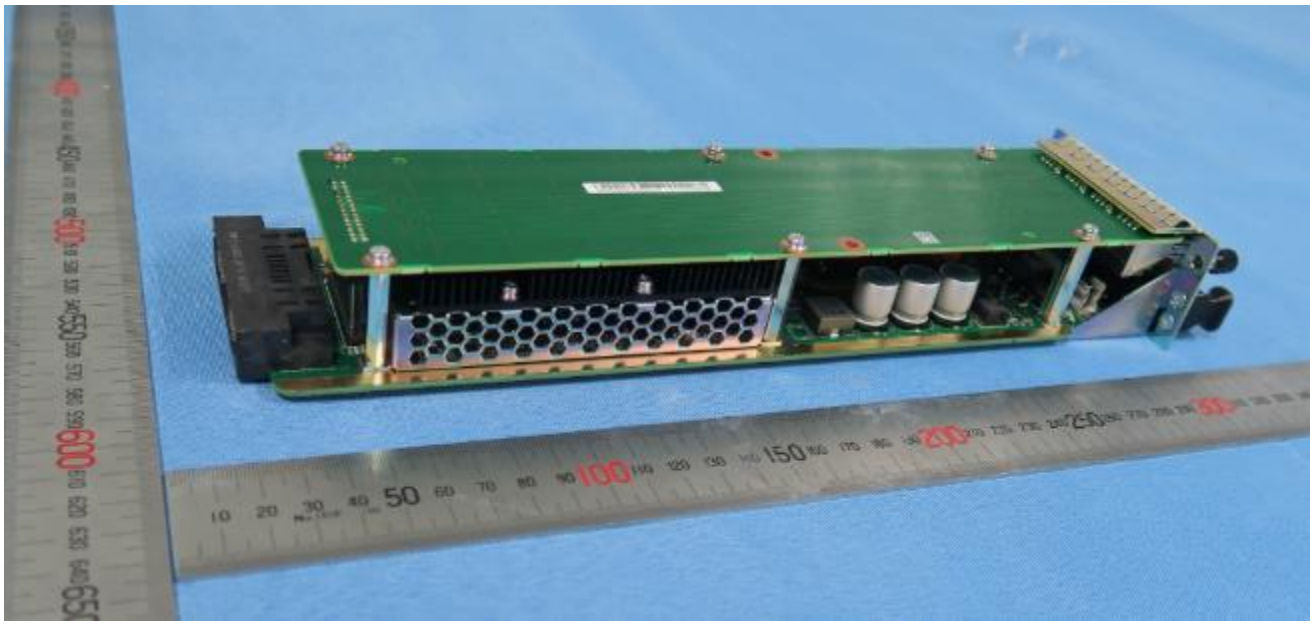


Photo-07, Interface of WD2MUPEUd2 PSU

Photo-08, Rear, bottom and left view of WD2E1FANE / WD2E2FANE/ WD2E3FANE box

Photo-09, Front, top and right view of WD2E1FANE / WD2E2FANE/ WD2E3FANE box

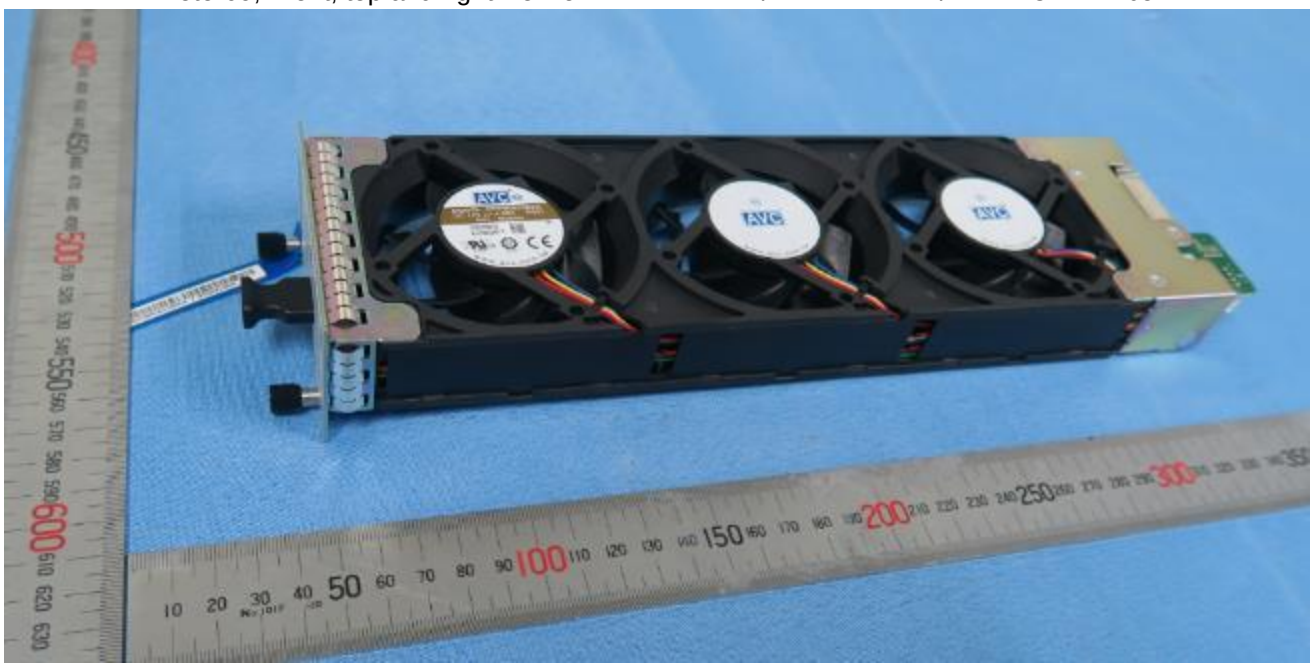


Photo-10, Front view of FAN box

Photo-11, Top view of WD22UBBPg2/ WD22UBBPg2a/ WD22UBBPg3/ WD22UBBPg3a/ WD22UBBPg3BT/WD26UBBPg2ac/WD26UBBPg2a/ WD26UBBPg2/ WD2DUBBPG2C0/WD2DUBPG2AUK/WD2DUBBPG2UK board

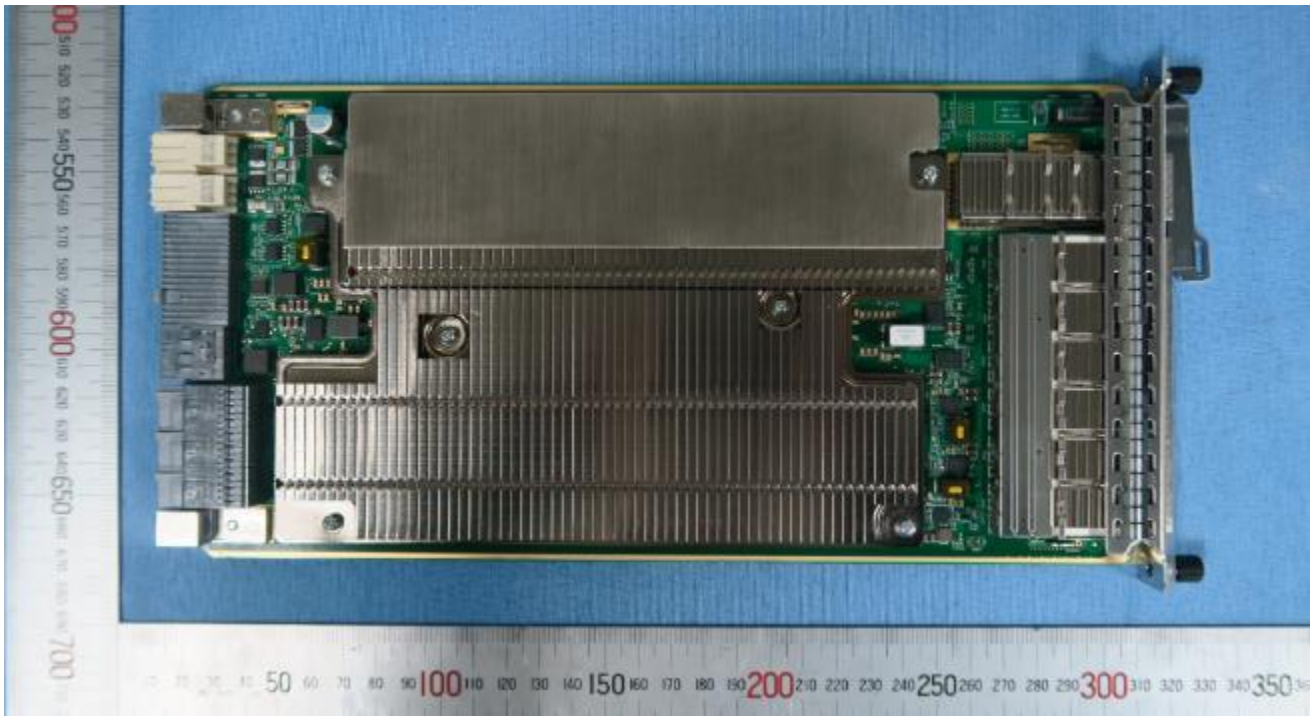


Photo-12, Bottom view of WD22UBBPg2/ WD22UBBPg2a/ WD22UBBPg3/ WD22UBBPg3a WD22UBBPg3BT/WD26UBBPg2ac/WD26UBBPg2a/ WD26UBBPg2/ WD2DUBBPG2C0/WD2DUBPG2AUK/WD2DUBBPG2UK board

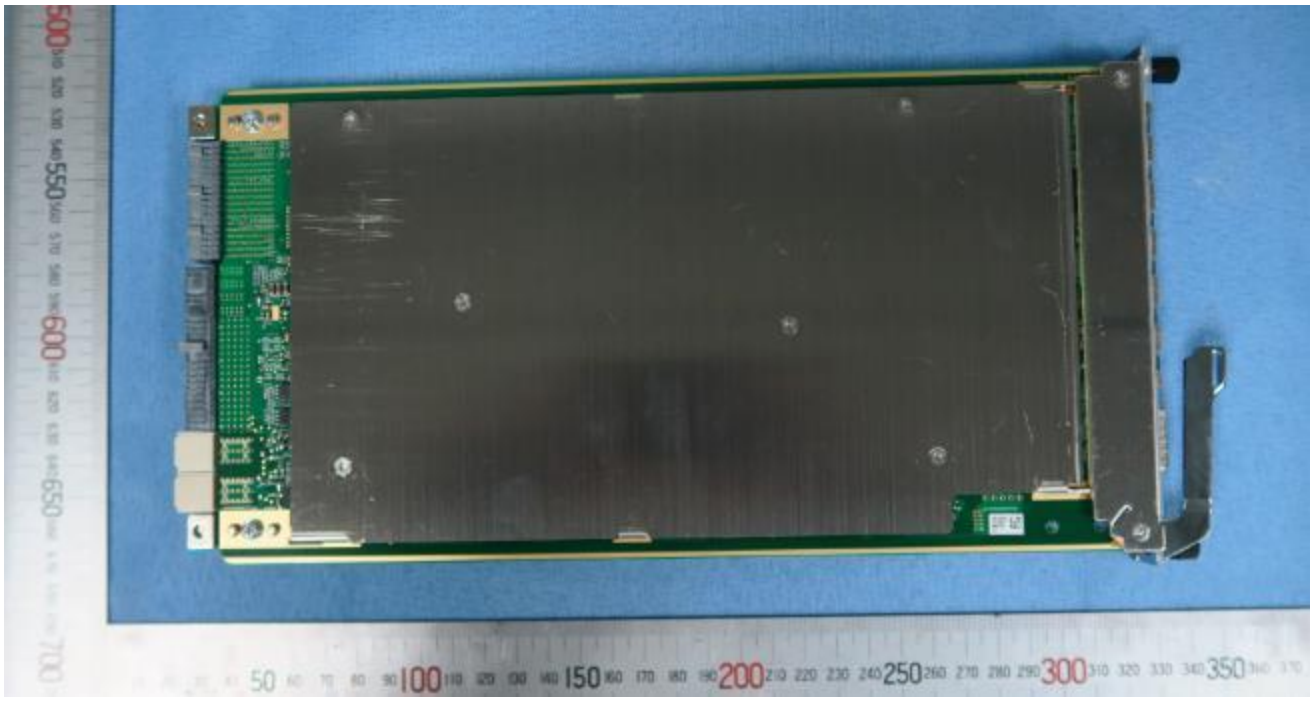


Photo-13, Top view of WD22UBBPg4 board

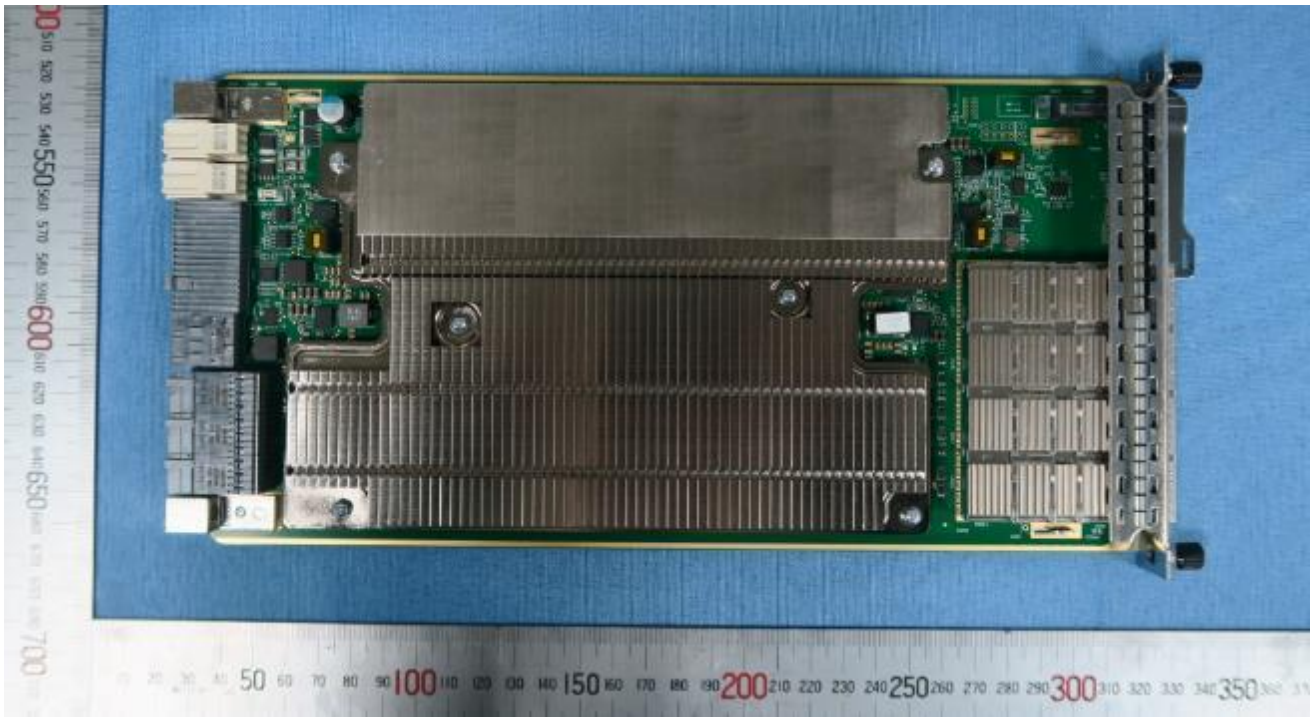


Photo-14, Bottom view of WD22UBBPg4 board

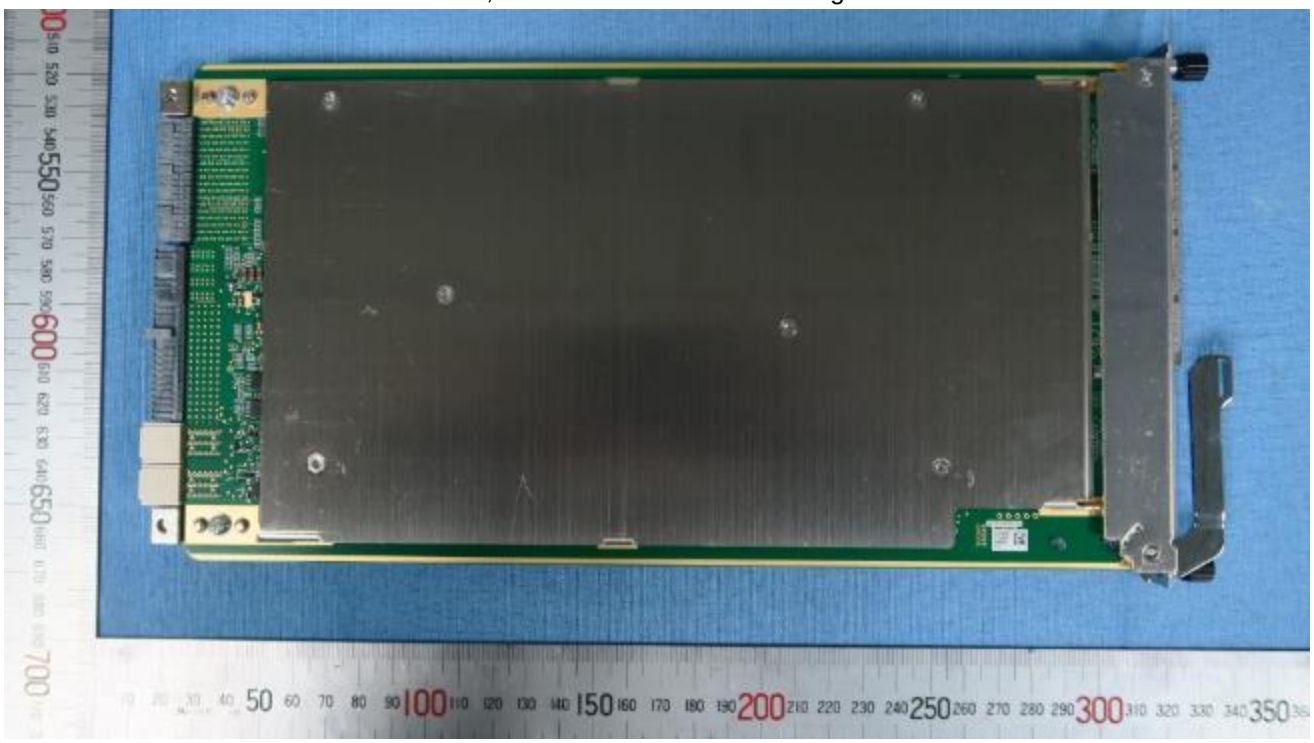


Photo-15, Top view of WD22UMPTg1/ WD22UMPTg2/ WD22UMPTg3/ WD22UMPTg2BT/WD26UMPTg5/ WD26UMPTg3 board

Photo-16, Bottom view of WD22UMPTg1/ WD22UMPTg2/ WD22UMPTg3/WD22UMPTg2BT/WD26UMPTg5/ WD26UMPTg3 board

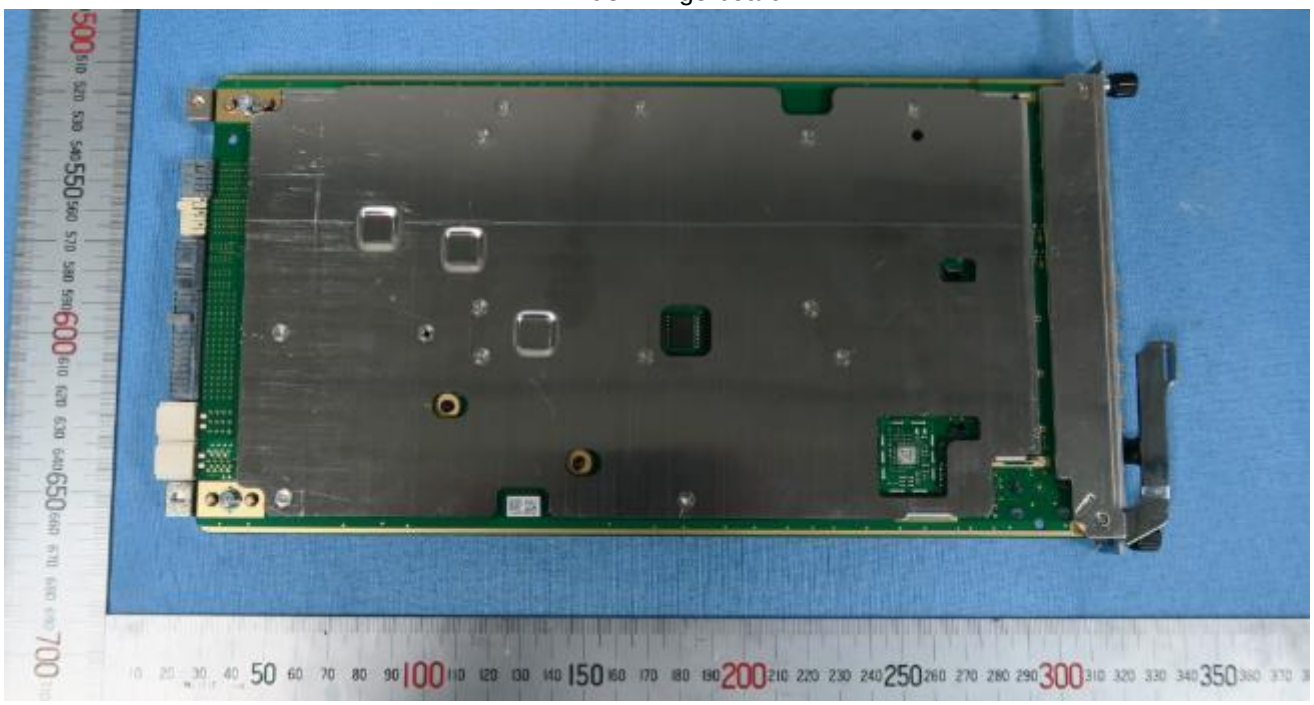


Photo-17, Top view of WD22UBBPe9s board

Photo-18, Bottom view of WD22UBBPe9s board

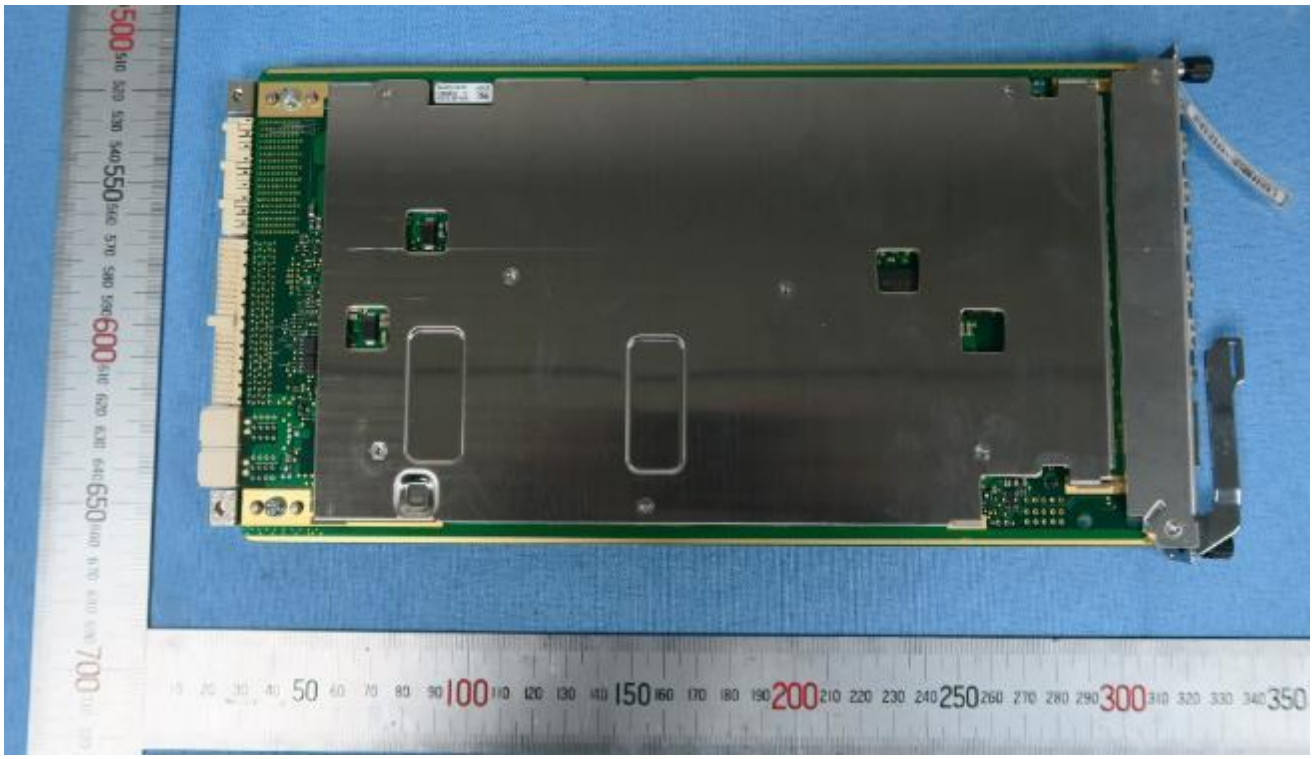


Photo-19, Top View of WD24UBBPe1/ WD24UBBPe3/
WD22UBBPe10/ WD22UBBPe11/ WD22UBBPe16 board

Photo-20, Bottom View of WD24UBBPe1/ WD24UBBPe3/
WD22UBBPe10/ WD22UBBPe11/ WD22UBBPe16 board

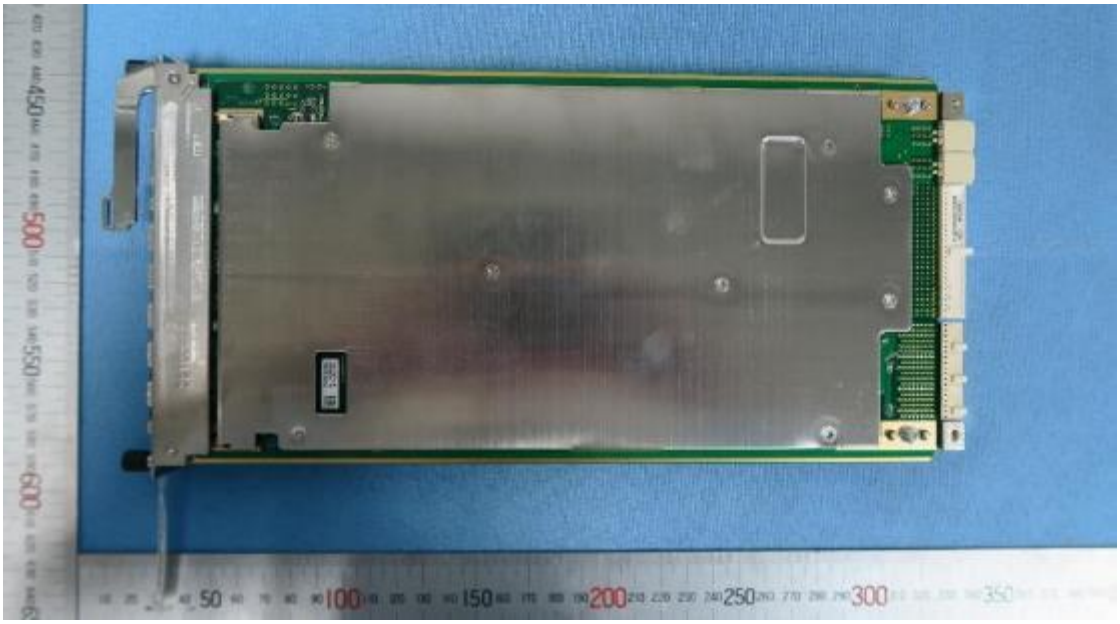


Photo-21, Top view of WD22UBBPe1/ WD22UBBPe3/ WD26UBBPe1/ WD26UBBPe3/WD22UBBPe2/ WD22UBBPe4/WD22UBBPe8 board

Photo-22, Bottom view of WD22UBBPe1/ WD22UBBPe3/ WD26UBBPe1/ WD26UBBPe3/WD22UBBPe2/ WD22UBBPe4/WD22UBBPe8 board

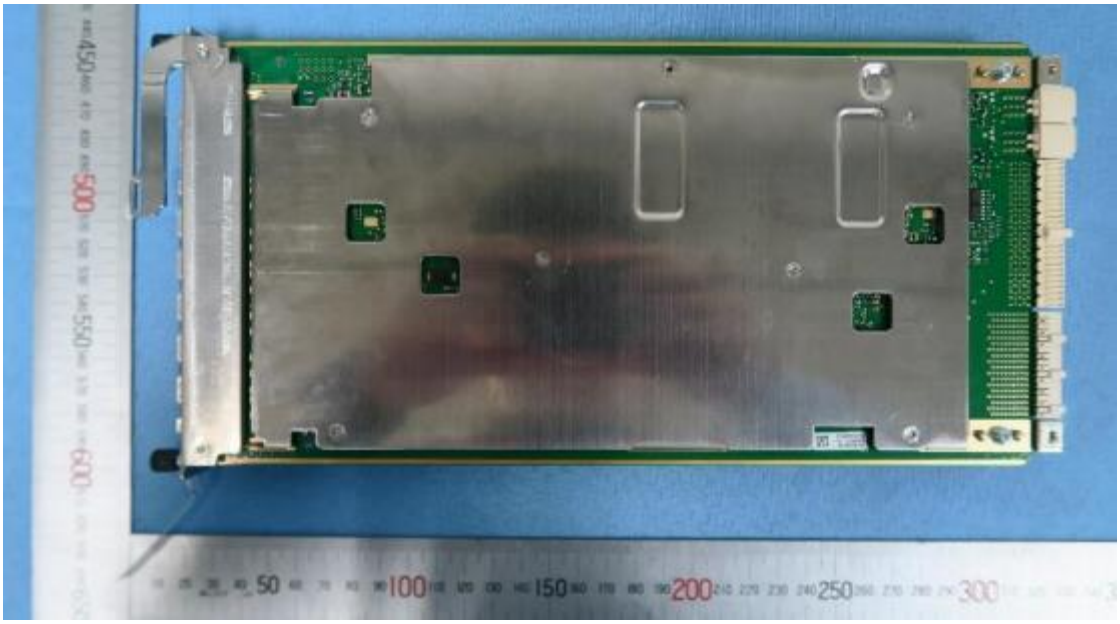


Photo-23, Top view of WD24UMPTe1/ WD24UMPTe4/ WD24UMPTe5 board

Photo-24, Bottom view of WD24UMPTe1/ WD24UMPTe4/ WD24UMPTe5 board

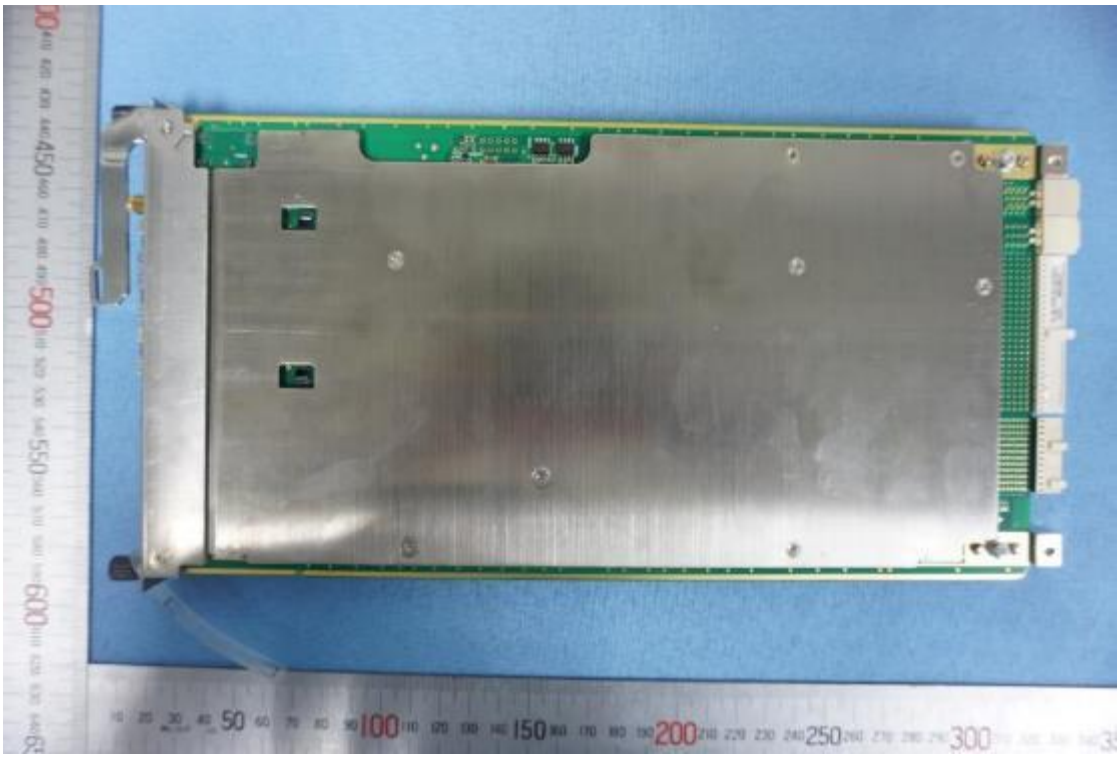


Photo-25, Top view of WD22UMPTe1/ WD22UMPTe4/ WD22UMPTe5/ WD26UMPTe1/ WD26UMPTe4/ WD26UMPTe5/ WD22UMPTe2/ WD22UMPTes/ WD22UMPTe/ WD23UMPTe2 board

Photo-26, Bottom view of WD22UMPTe1/ WD22UMPTe4/ WD22UMPTe5/ WD26UMPTe1/ WD26UMPTe4/ WD26UMPTe5/ WD22UMPTe2/ WD22UMPTes/ WD22UMPTe/ WD23UMPTe2 board

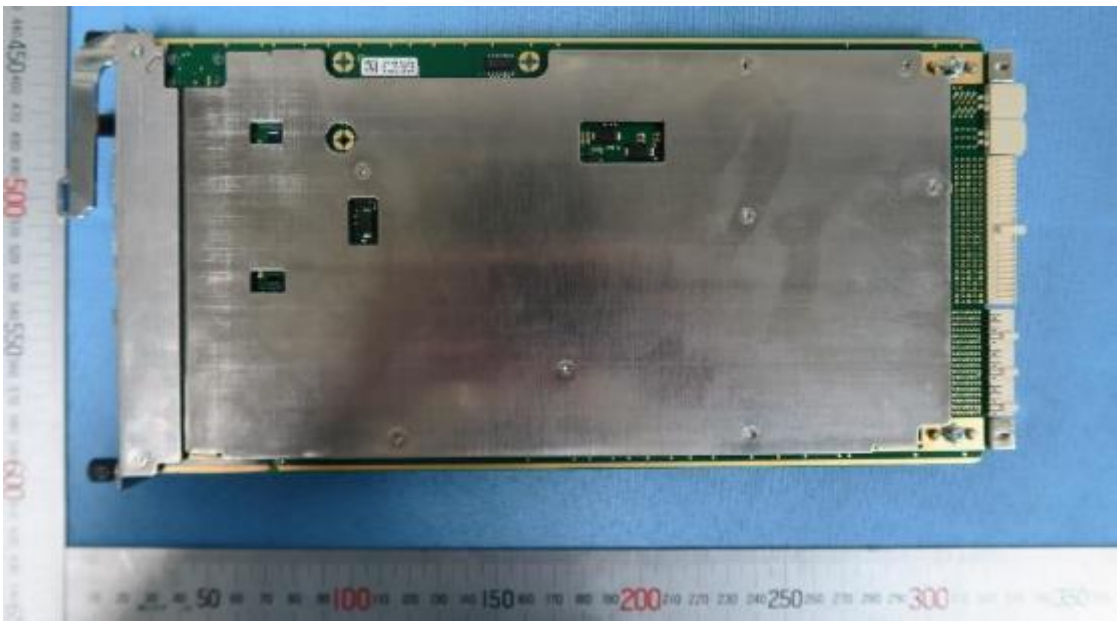


Photo-27, Top view of WD24UBFD board

Photo-28, Bottom view of WD24UBFD board

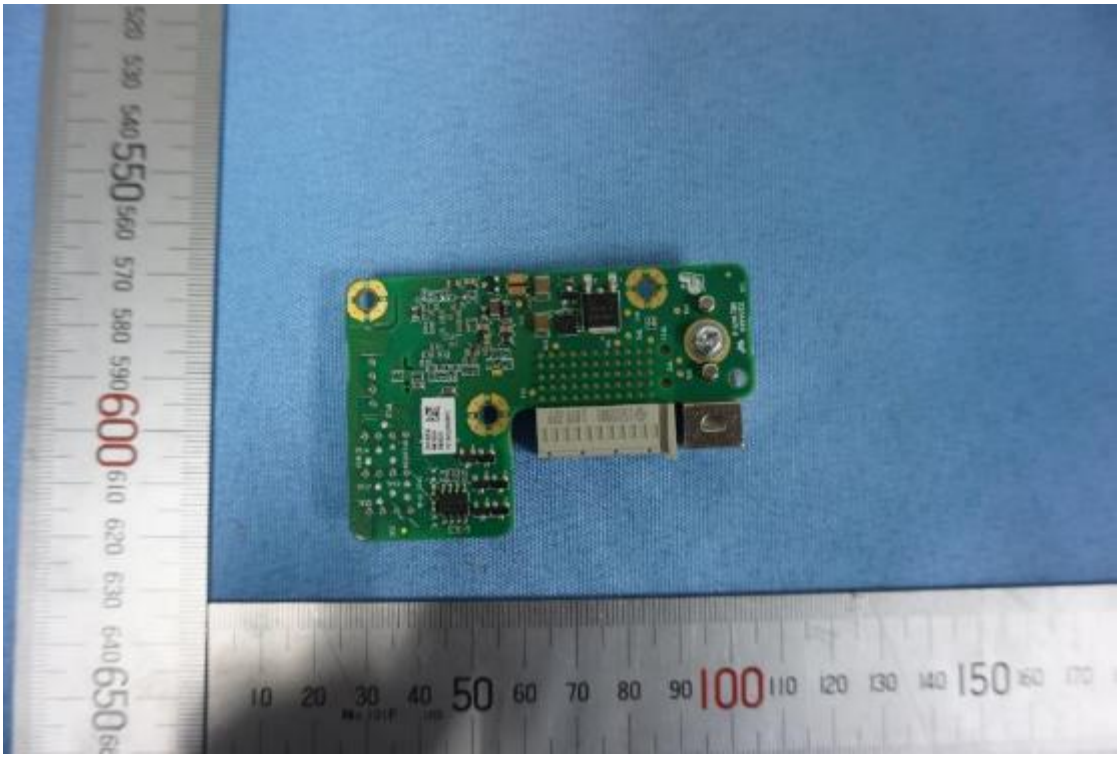


Photo-29, Top view of WD24UPEG board

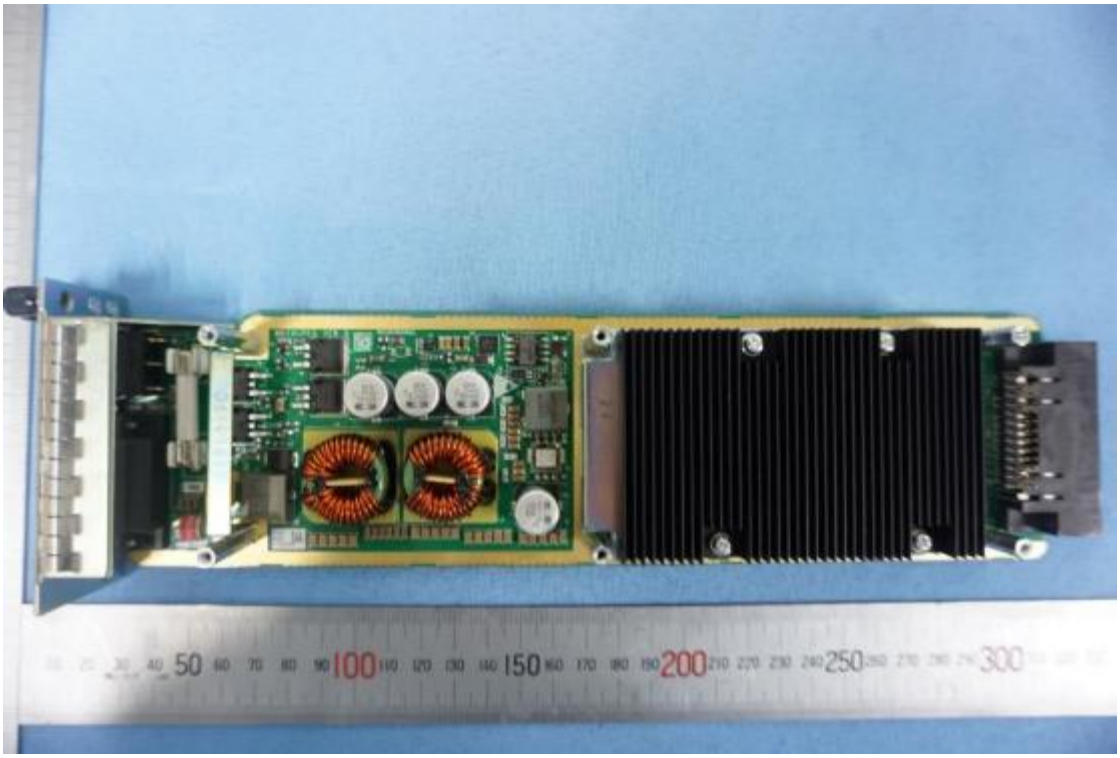


Photo-30, Top view of WD24UMPTg1/WD24UMPTg2/WD24UMPTg3/WD24UMPTgs/WD24UMPTg5 board

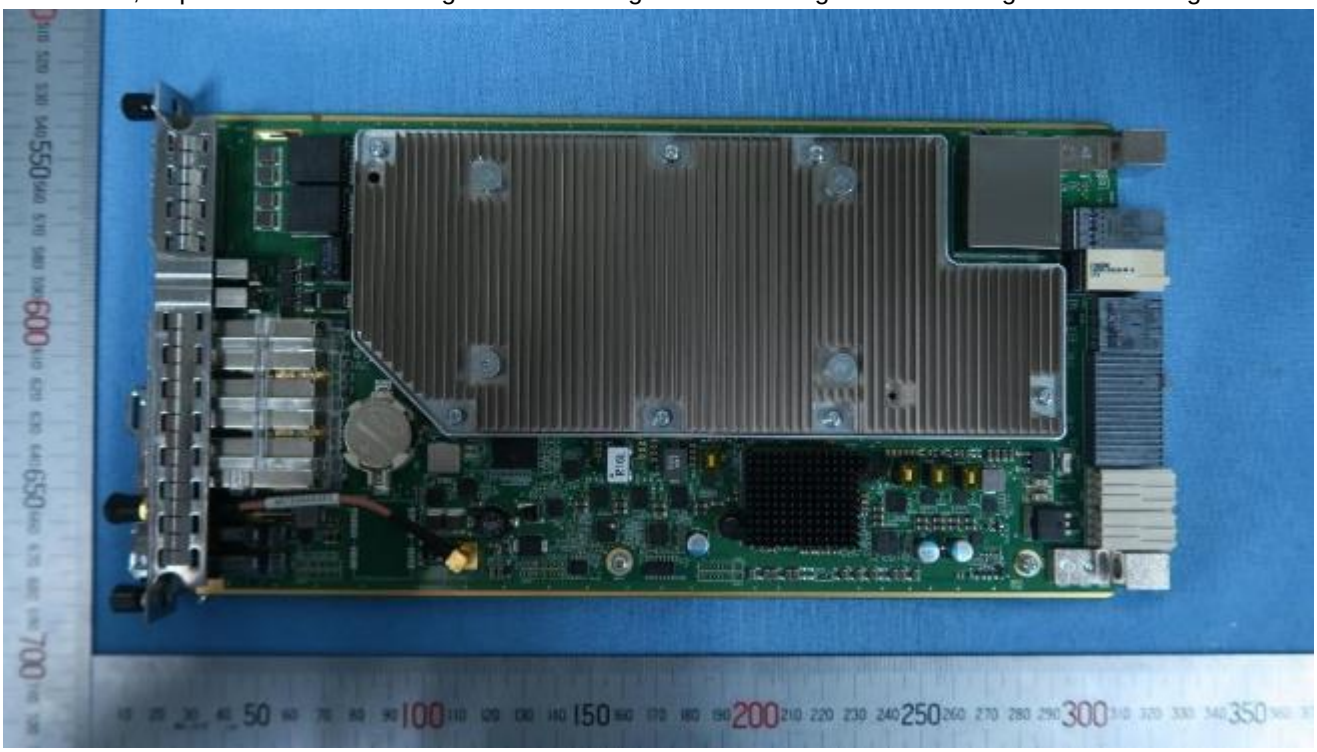


Photo-31, Bottom view of WD24UMPTg1/WD24UMPTg2/WD24UMPTg3/WD24UMPTgs/WD24UMPTg5 board

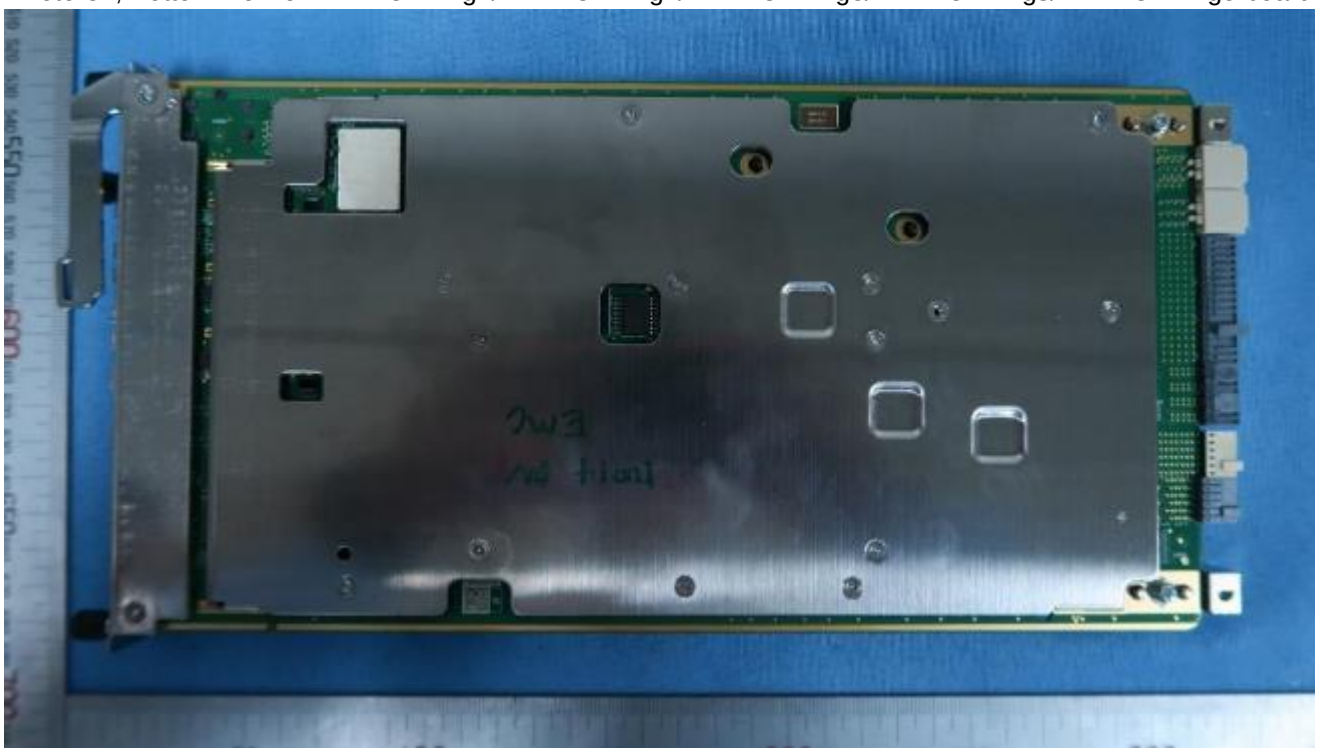


Photo-32, Top view of WD27UBBPg2ac/ WD27UBBPg3c board

Photo-33, Bottom view of WD27UBBPg2ac/ WD27UBBPg3c board

Photo-34, Top view of WD28UBBPe/ WD28UBBPe1/ QWL1WBBPf5 board

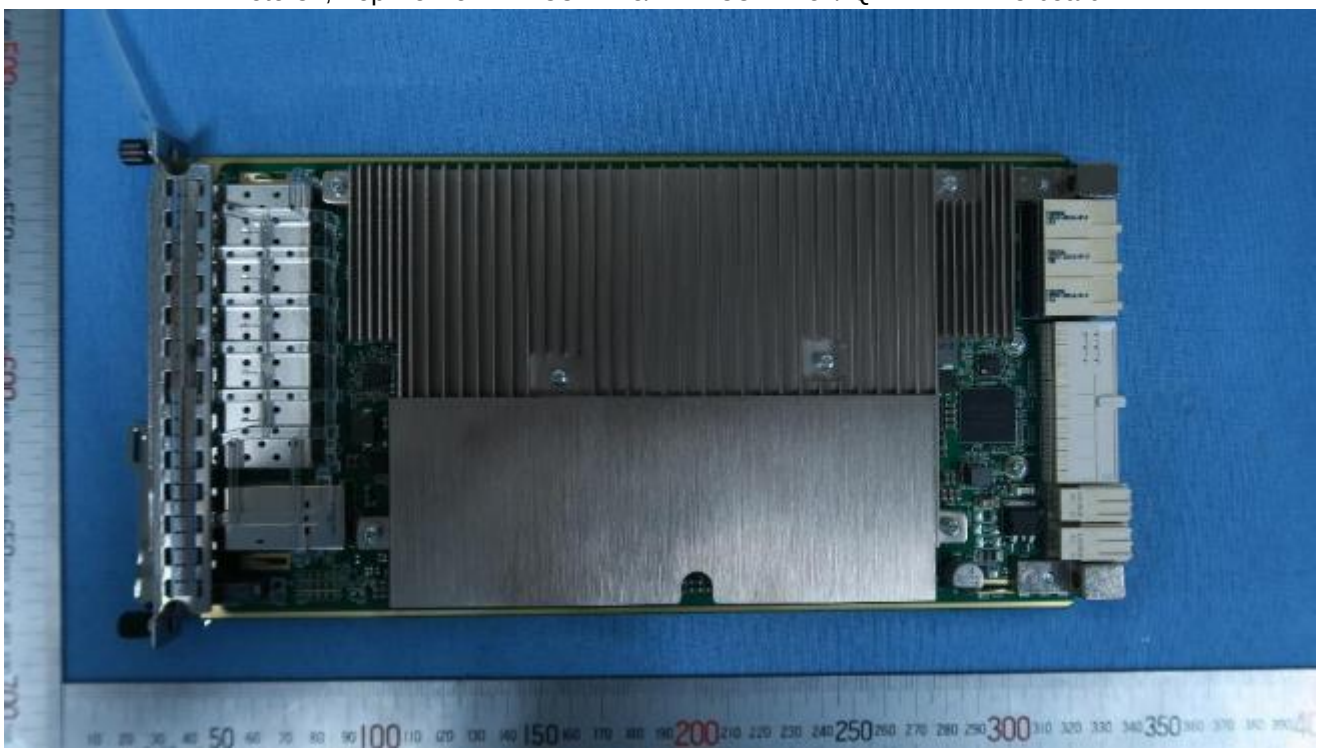


Photo-35, Bottom view of WD28UBBPe/ WD28UBBPe1/ QWL1WBBPf5 board

Photo-36, Top view of WD24UBBPe6c/ WD24UBBPea/ WD23UBBPeb/ QWL1WBBPf6 board

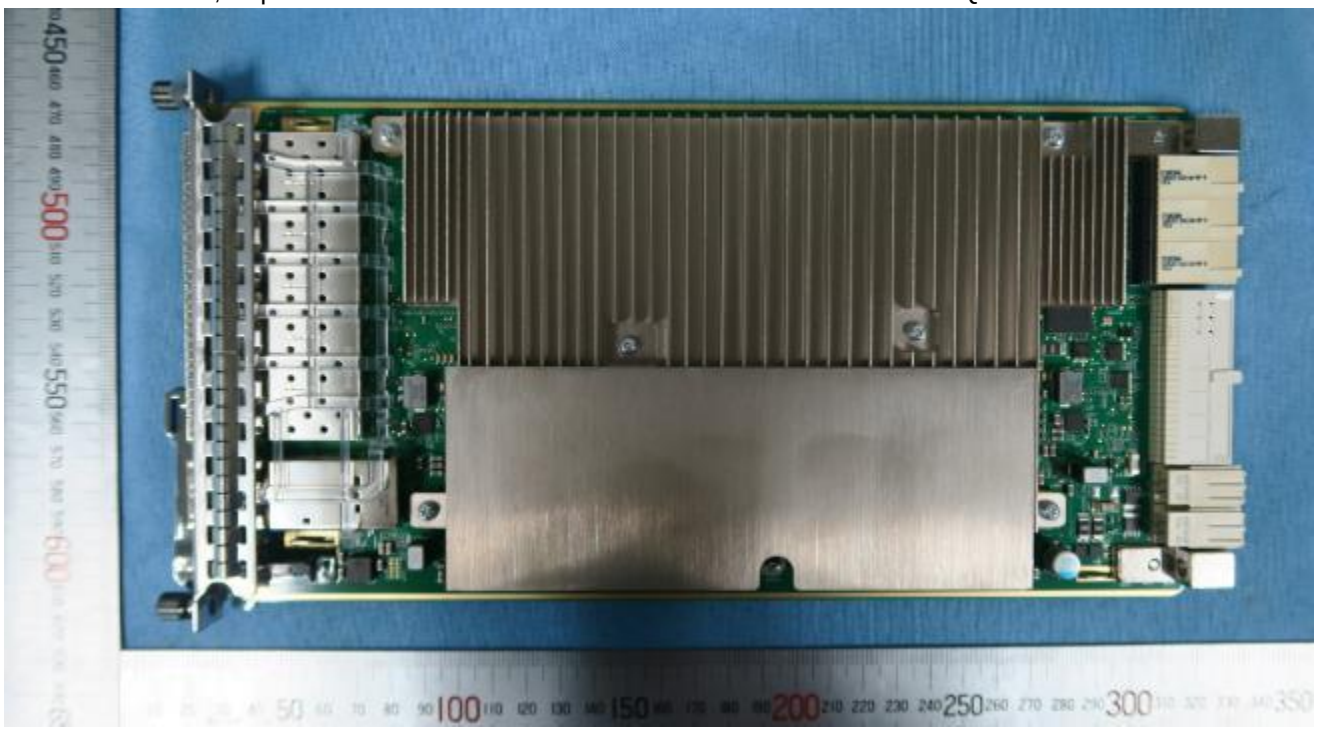


Photo-37, Bottom view of WD24UBBPe6c/ WD24UBBPea/ WD23UBBPeb/ QWL1WBBPf6 board

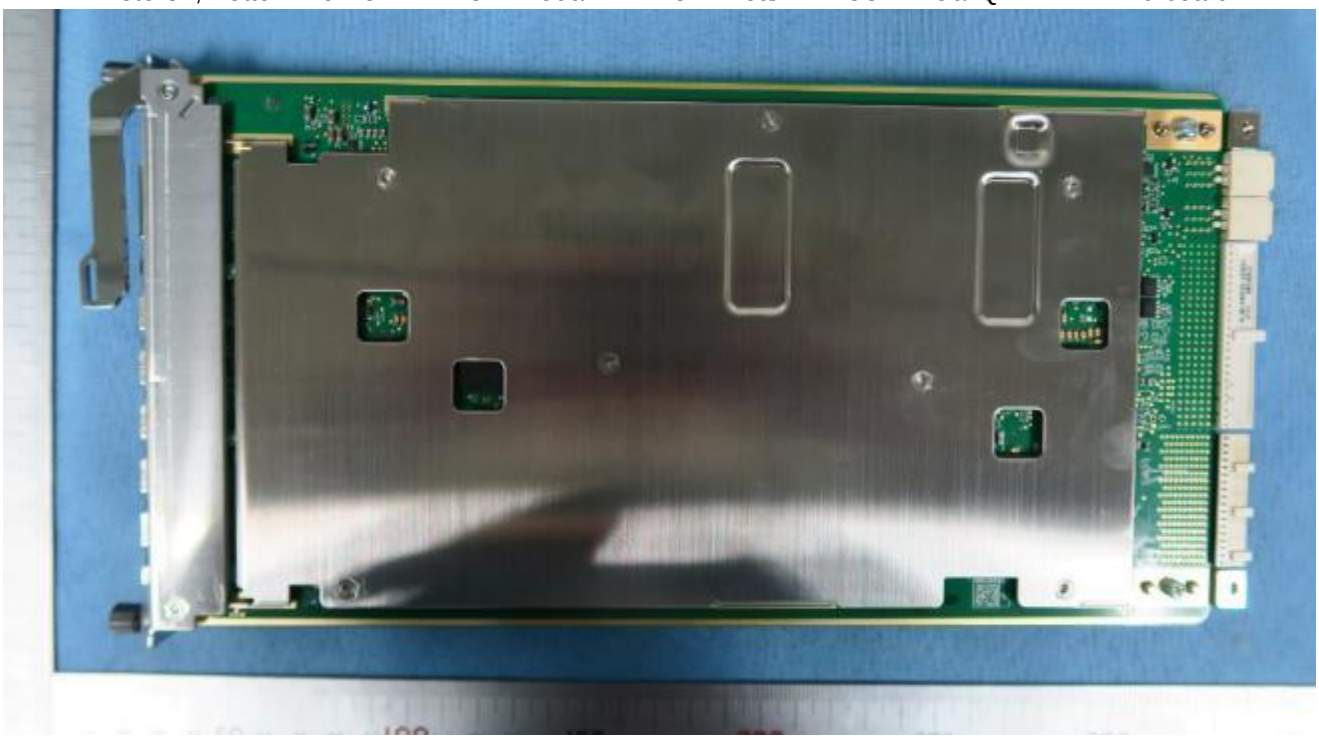


Photo-38, Top view of WD26UBBPg3TF/ WD22UBBPg3TF/ WD26UBBPg2aTF/ WD22UBBPg2aTF board

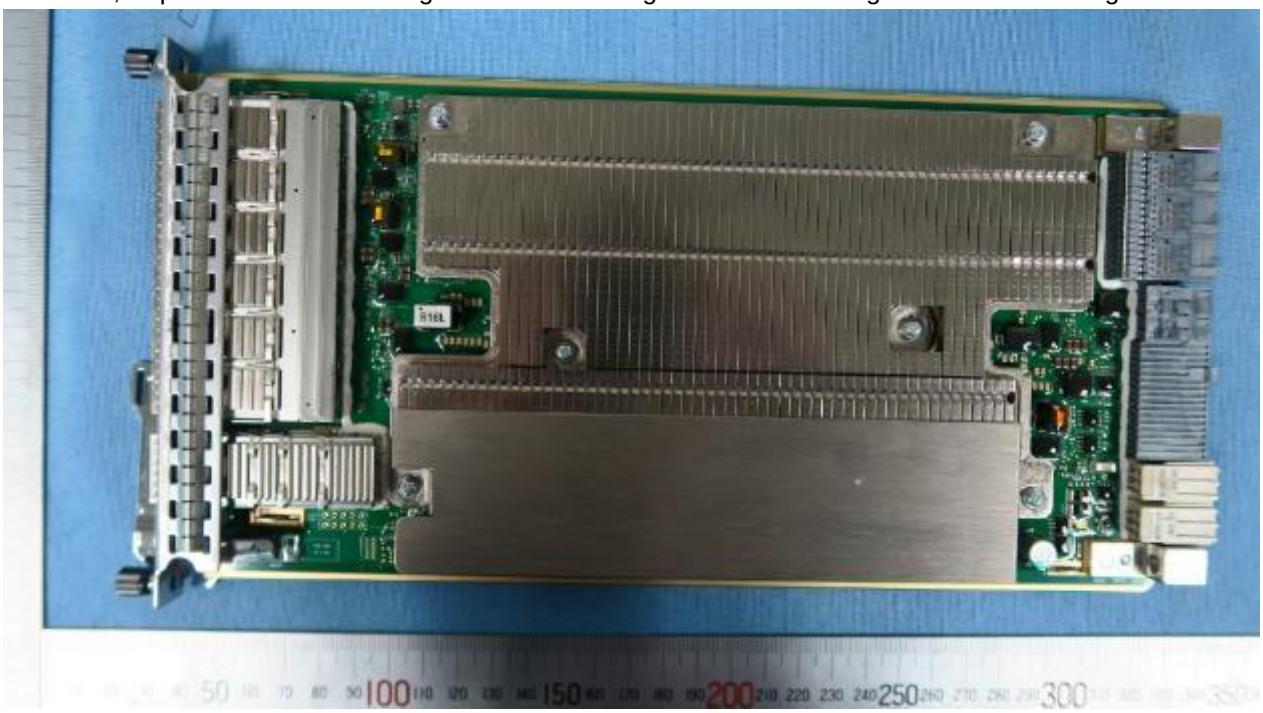


Photo-39, Bottom view of WD26UBBPg3TF/ WD22UBBPg3TF/ WD26UBBPg2aTF/ WD22UBBPg2aTF board

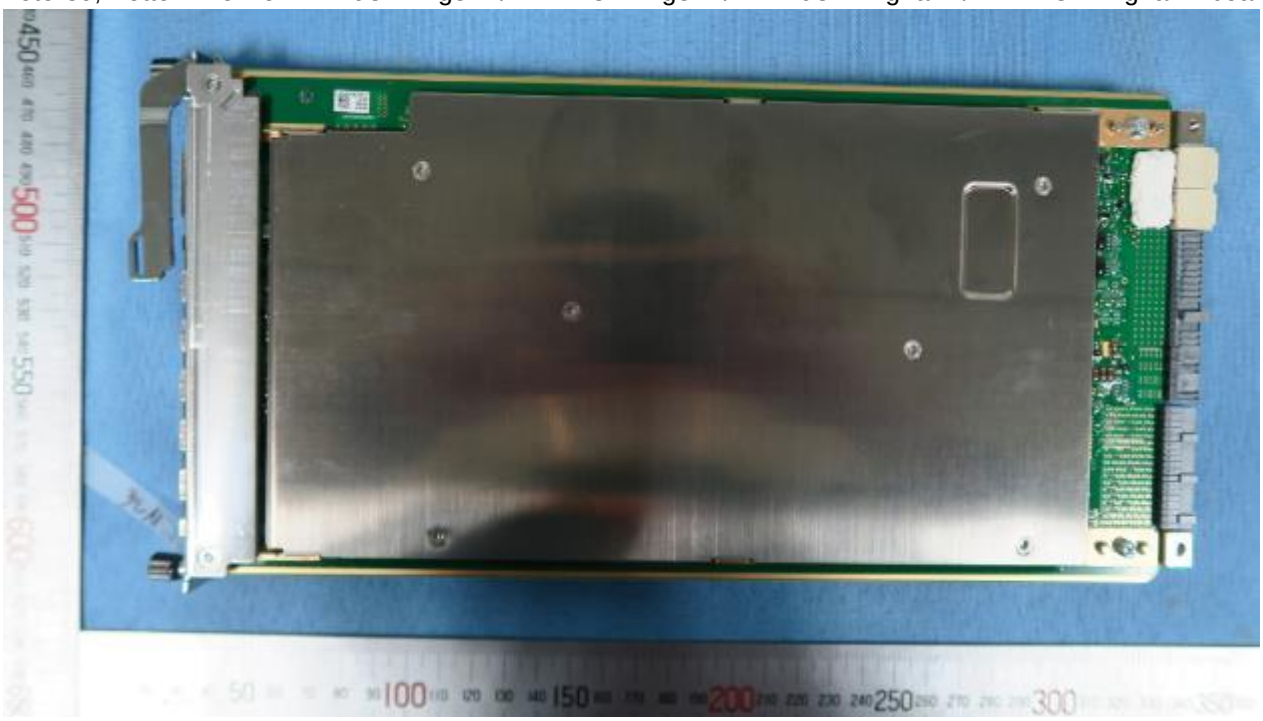


Photo-40, Top view of WD26UMPTg2tf board

Photo-41, Bottom view of WD26UMPTg2tf board

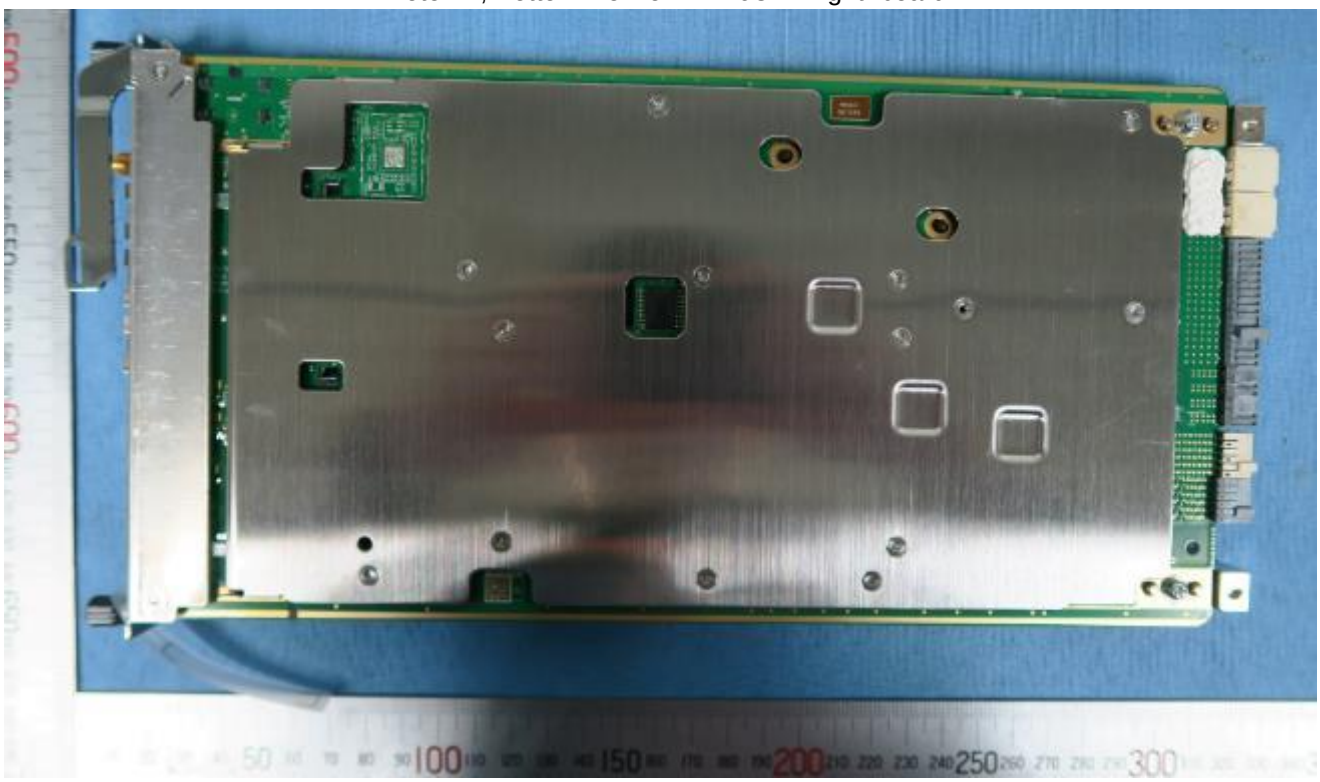


Photo-42, Top view of WD23UBBPg1/ WD22UBBPe18/ WD25UBBPg1/ WD2DUBBPG1BT board

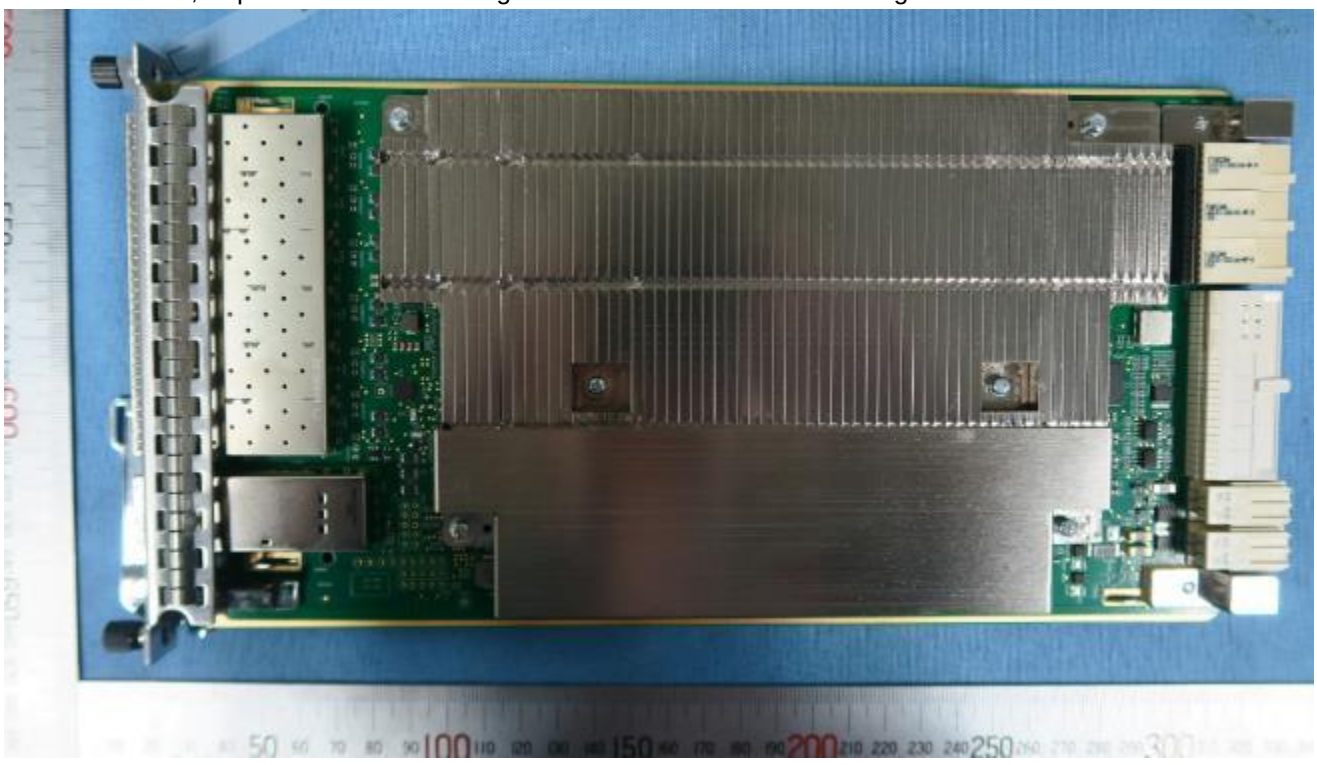


Photo-43, Bottom view of WD23UBBPg1/ WD22UBBPe18/ WD25UBBPg1/ WD2DUBBPG1BT board

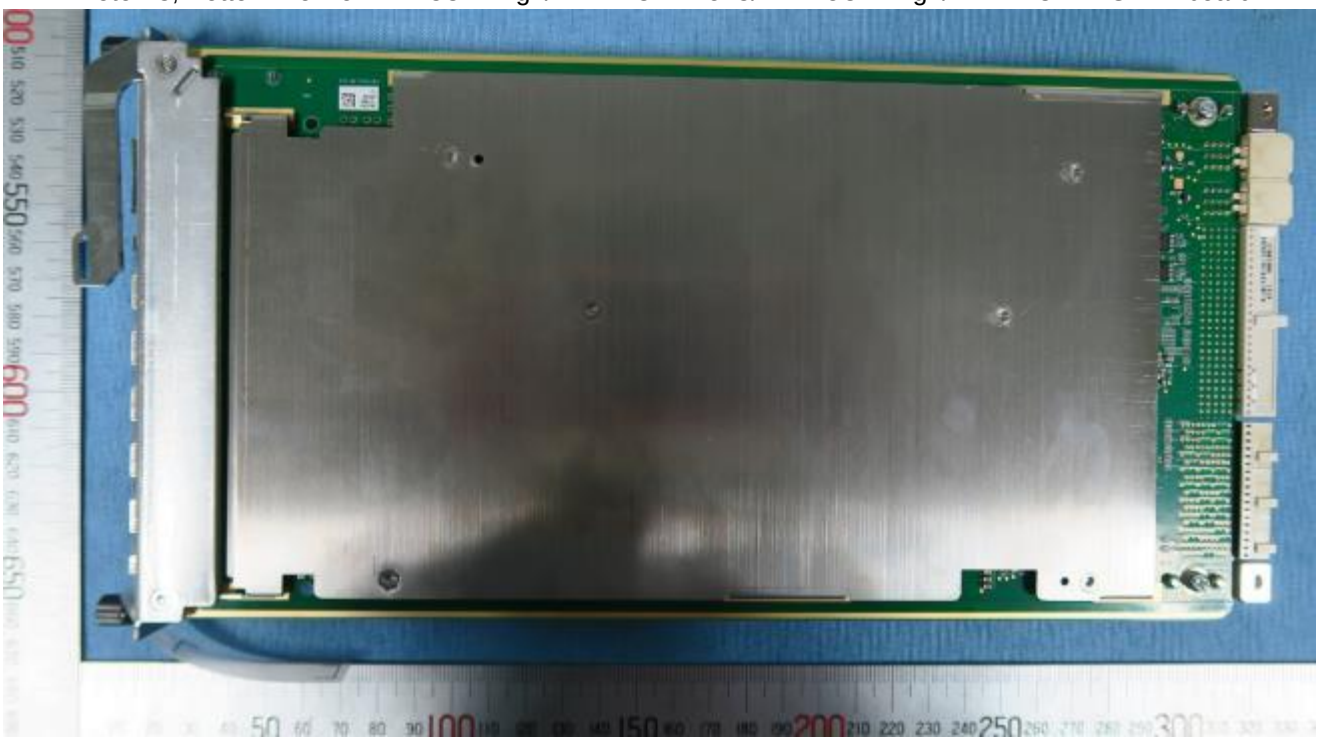


Photo-44, Top view of WD24UBBPg3/ WD24UBBPg2/ WD24UBBPg3a / WD24UBBPg2a/ WD2DUBBPG3L0/ WD2DUBBPG3B0/ WD22UBBPg1a/ WD2DUBBPG1A0 board

Photo-45, Bottom view of WD24UBBPg3/ WD24UBBPg2/ WD24UBBPg3a / WD24UBBPg2a/ WD2DUBBPG3L0/ WD2DUBBPG3B0/ WD22UBBPg1a/ WD2DUBBPG1A0 board

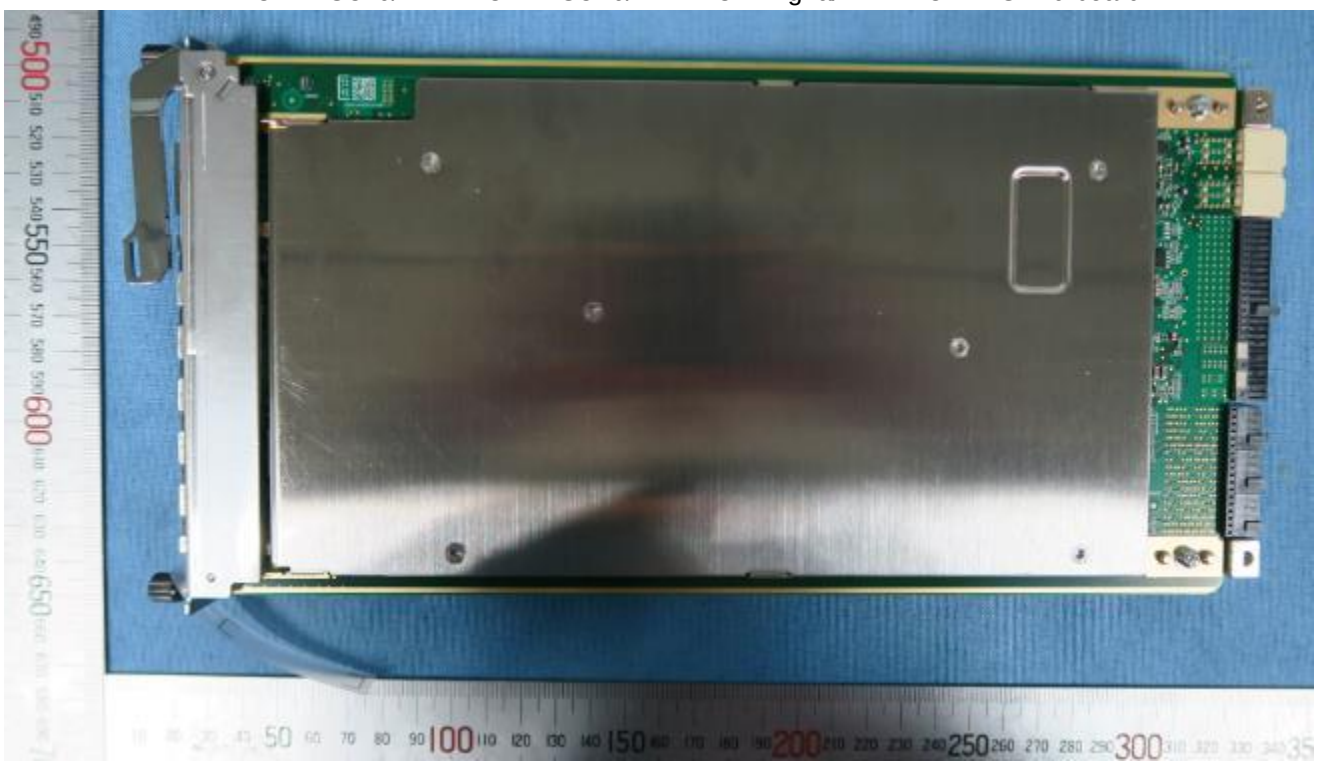


Photo-46, Top view of WD22UBBPe5/ WD22UBBPe6/ WD22UBBPea / WD22UBBPeas / WD26UBBPe6c/ WD26UBBPea/ WD23UBBPex2/WD22UBBPe9/ WD21LCOP board

Photo-47, Bottom view of WD22UBBPe5/ WD22UBBPe6/ WD22UBBPea / WD22UBBPeas / WD26UBBPe6c/ WD26UBBPea/ WD23UBBPex2/WD22UBBPe9/ WD21LCOP board

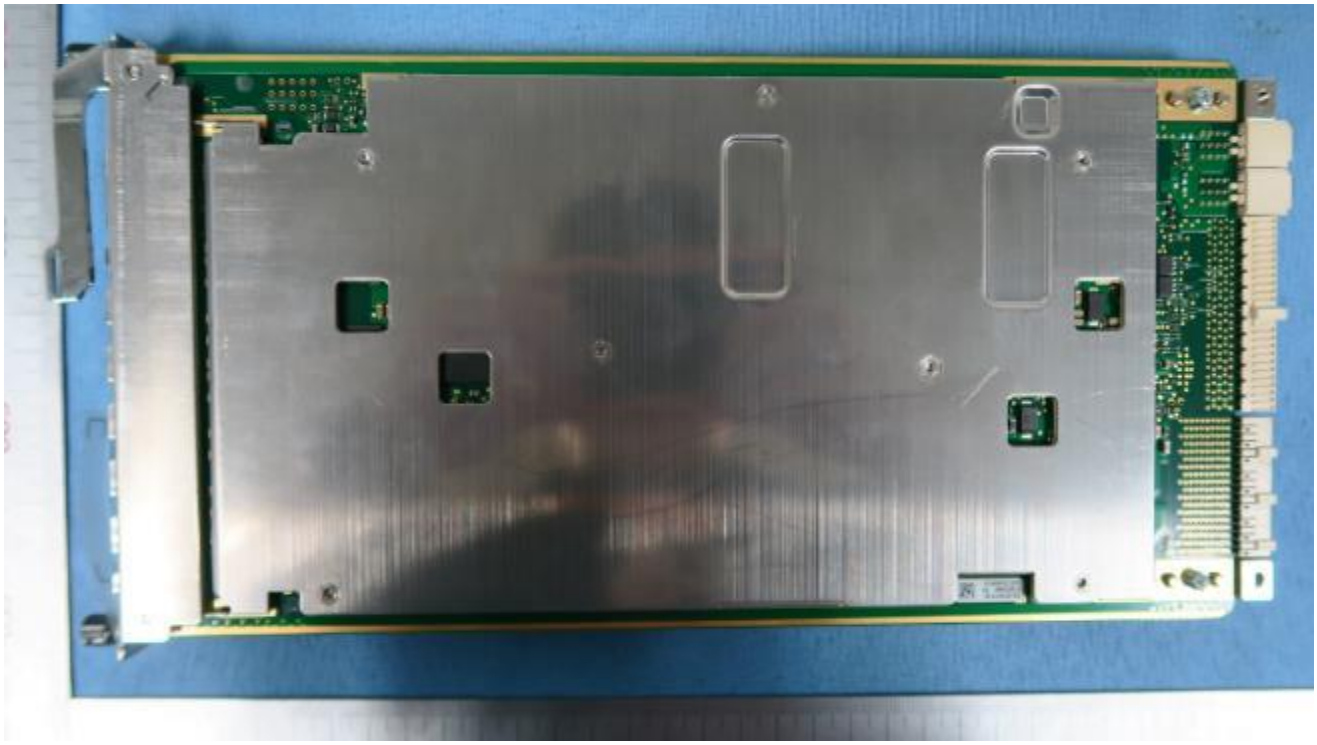


Photo-48, Top view of WD25UMPTe5/ WD23UMPTe / WD23UMPTe4/ WD23UMPTe5/ WD22UMPTe3/ WD23UMPTe3 board

Photo-49, Bottom view of WD25UMPTe5/ WD23UMPTe / WD23UMPTe4/ WD23UMPTe5/ WD22UMPTe3/ WD23UMPTe3 board

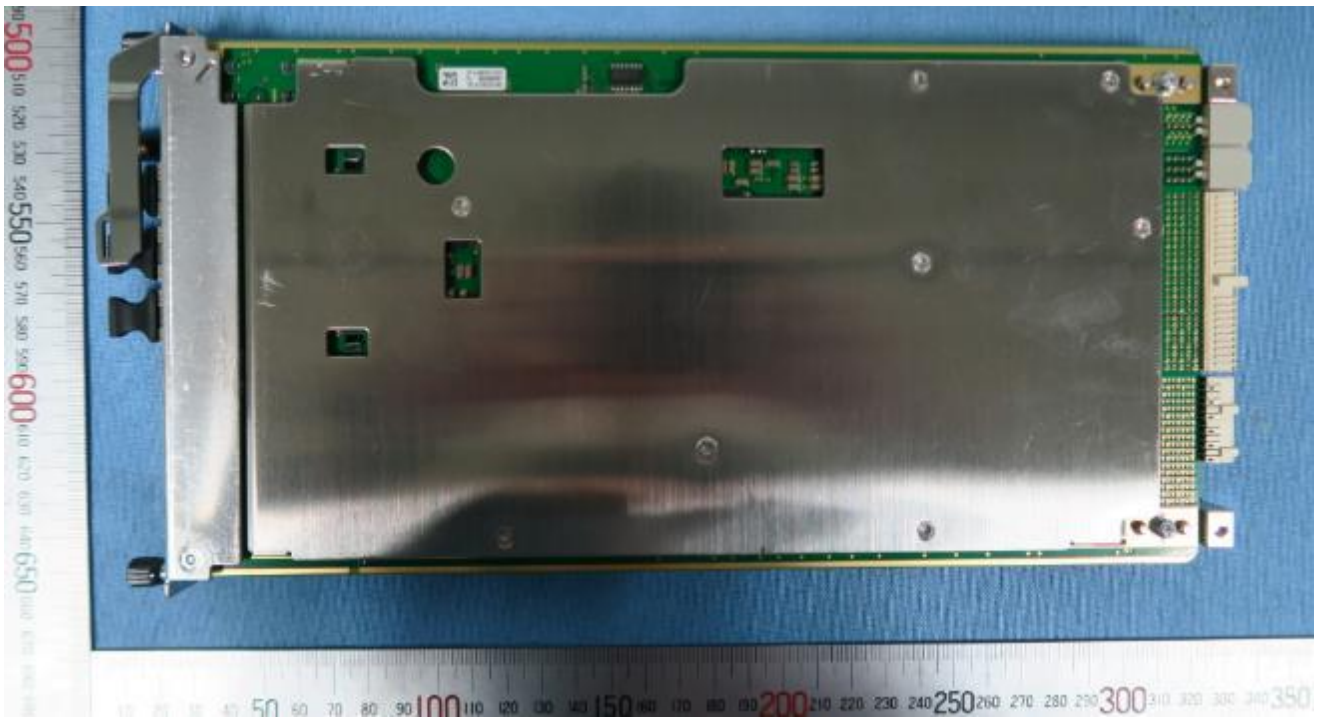


Photo-50, Top view of WD21USCUb16/ WD23USCUb11/ WD21USCUb18 board

Photo-51, Bottom view of WD21USCUb16/ WD23USCUb11/ WD21USCUb18 board

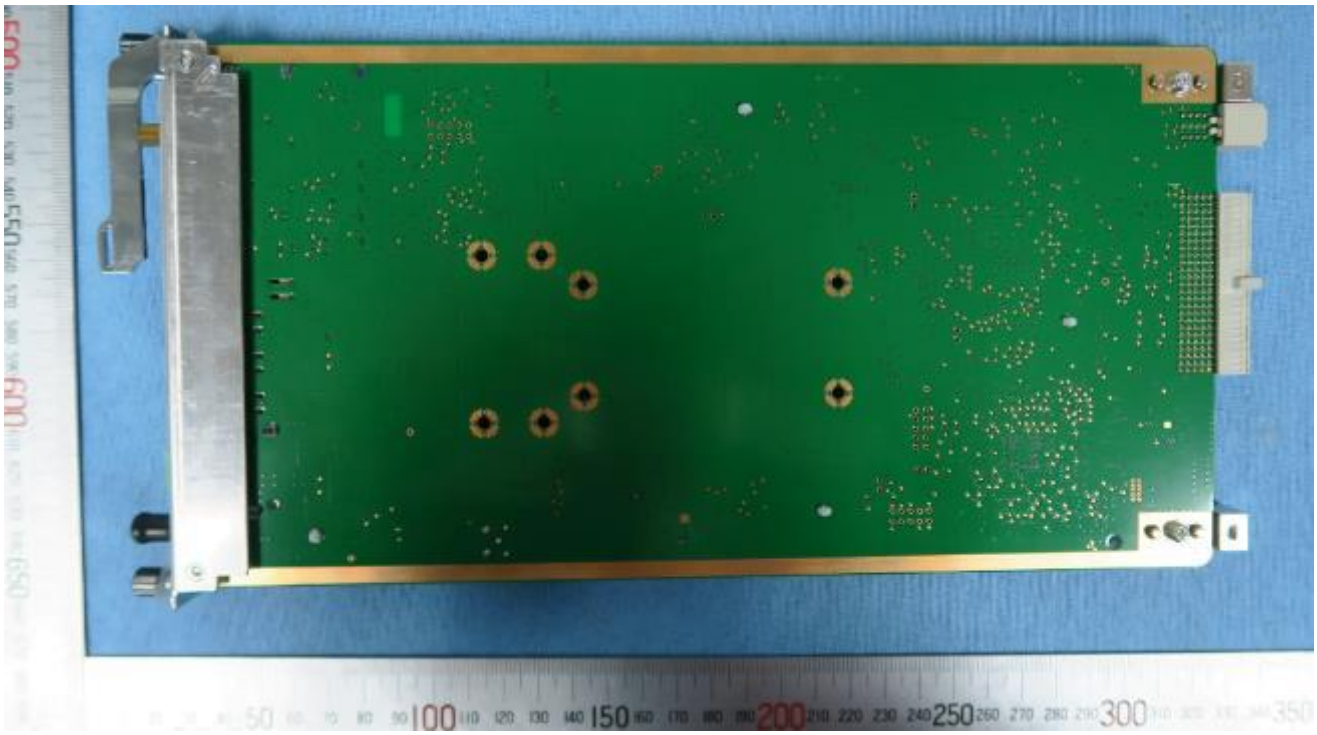


Photo-52, Top view of WD28UBBPg3c/ WD28UBBPg2ac board

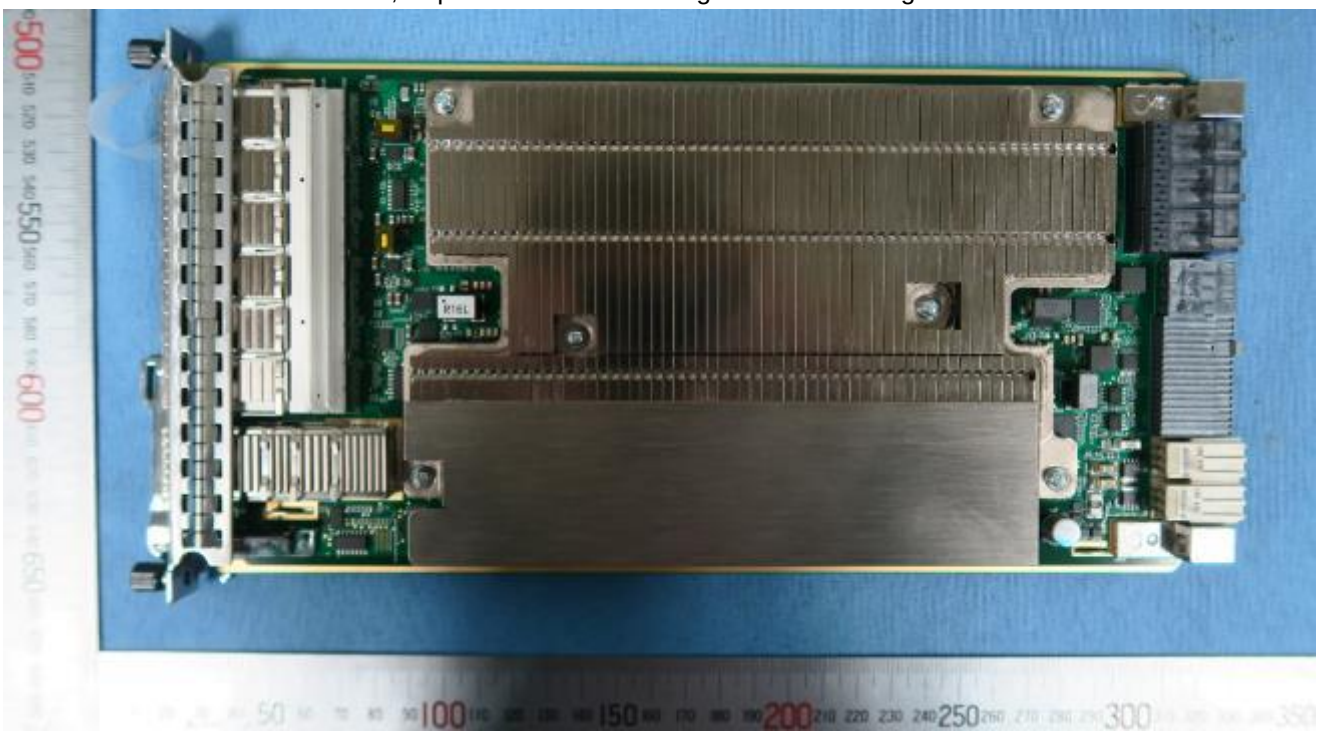


Photo-53, Bottom view of WD28UBBPg3c/ WD28UBBPg2ac board

Photo-54, Top view of WD24UBBPg4c2/WD24UBBPg4 board

Photo-55, Bottom view of WD24UBBPg4c2/WD24UBBPg4 board

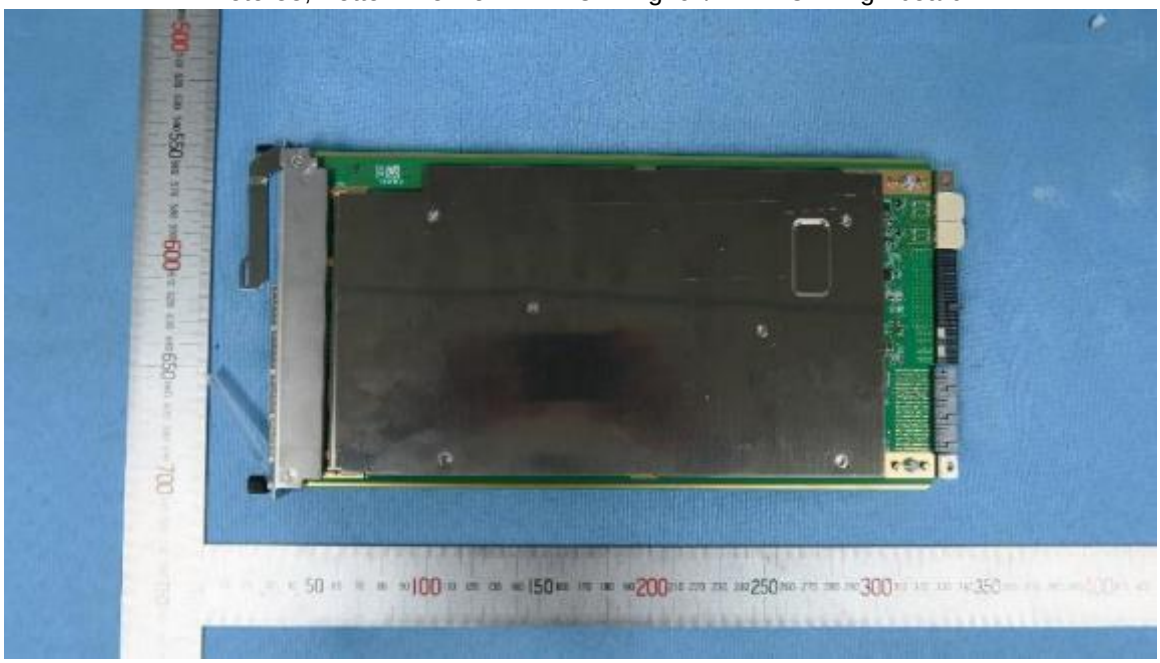


Photo-56, Top view of WD24UBBPg3TF/ WD2DUBBPG3A0 board

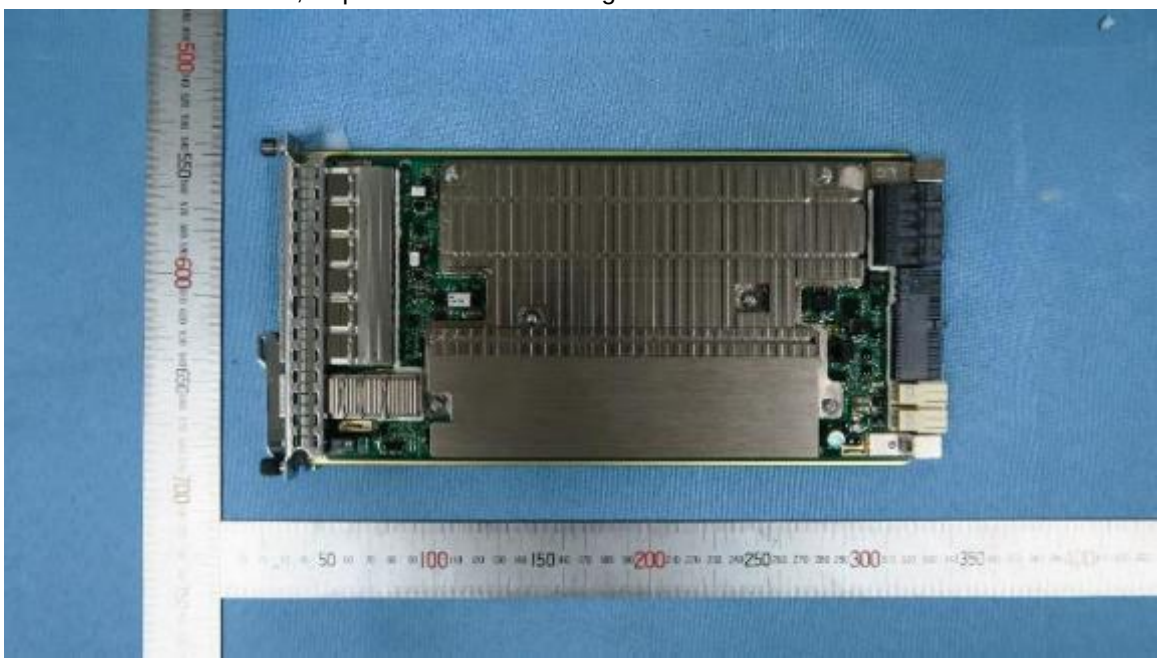


Photo-57, Bottom view of WD24UBBPg3TF/ WD2DUBBPG3A0 board

Photo-58, Top view of WD23UMPTe5c/ WD24UMPTe1(VER.A)/ WD24UMPTe3/ WD24UMPTe4(VER.A) / WD23UMPTe1c/ WD23UMPTe2c board

Photo-59, Bottom view of WD23UMPTe5c/ WD24UMPTe1(VER.A)/ WD24UMPTe3/ WD24UMPTe4(VER.A) / WD23UMPTe1c/ WD23UMPTe2c board

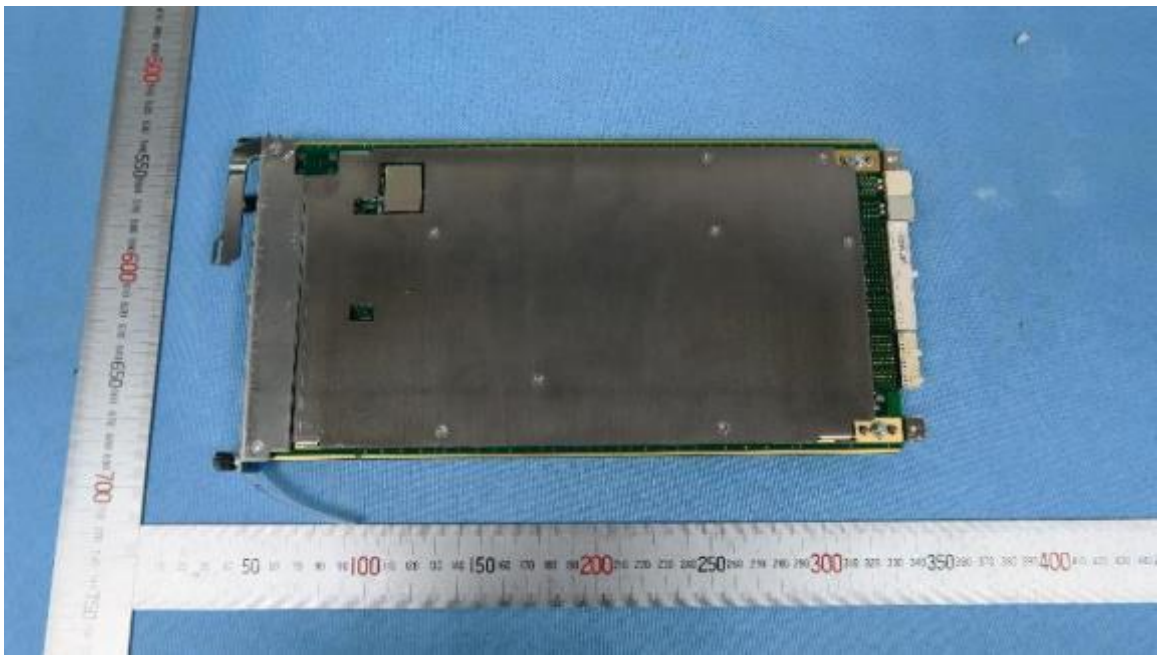


Photo-60, Top view of WD2M1UEIU board

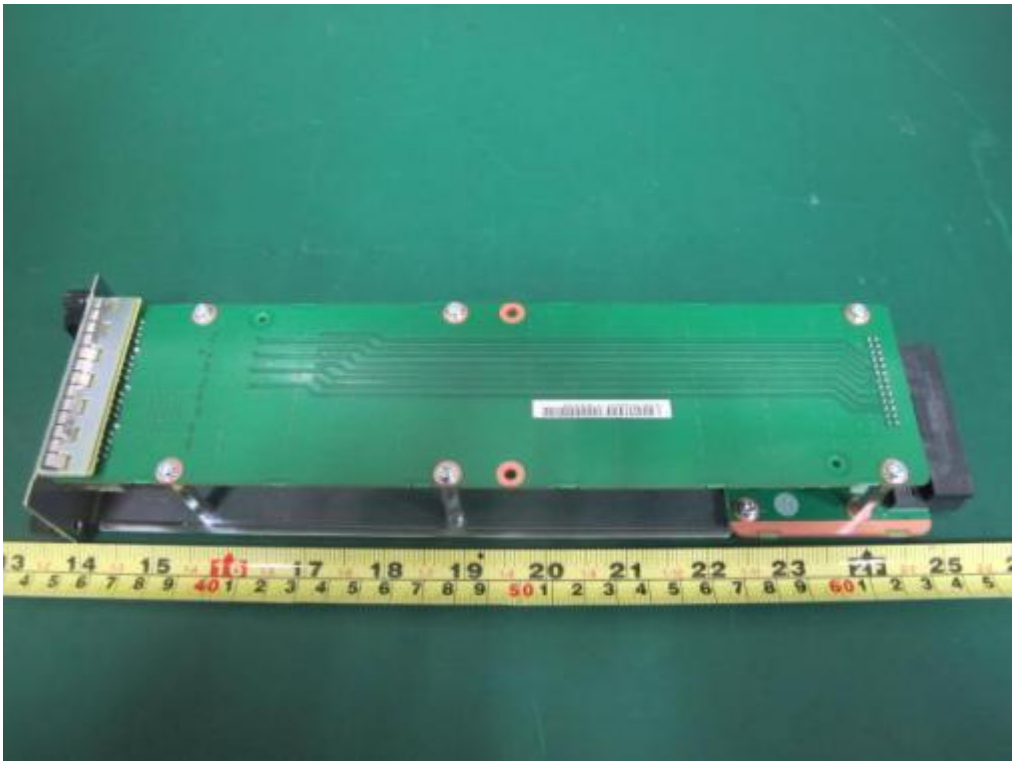


Photo-61, Bottom view of WD2M1UEIU board

Photo-62, Top view of WD24UMPTga1/ WD24UMPTga2/ WD24UMPTga3/ WD24UMPTga5/ WD2DUMPTGA10/ WD2DUMPTGA11/ WD2DUMPTGA20/ WD2DUMPTGA21/ WD2DUMPTGA30/ WD2DUMPTGA31/ WD2DUMPTGA50/ WD2DUMPTE180/ WD2DUMPTE190/ WD25UMPTga1/ WD25UMPTga2/ WD25UMPTga3/ WD25UMPTga5 board

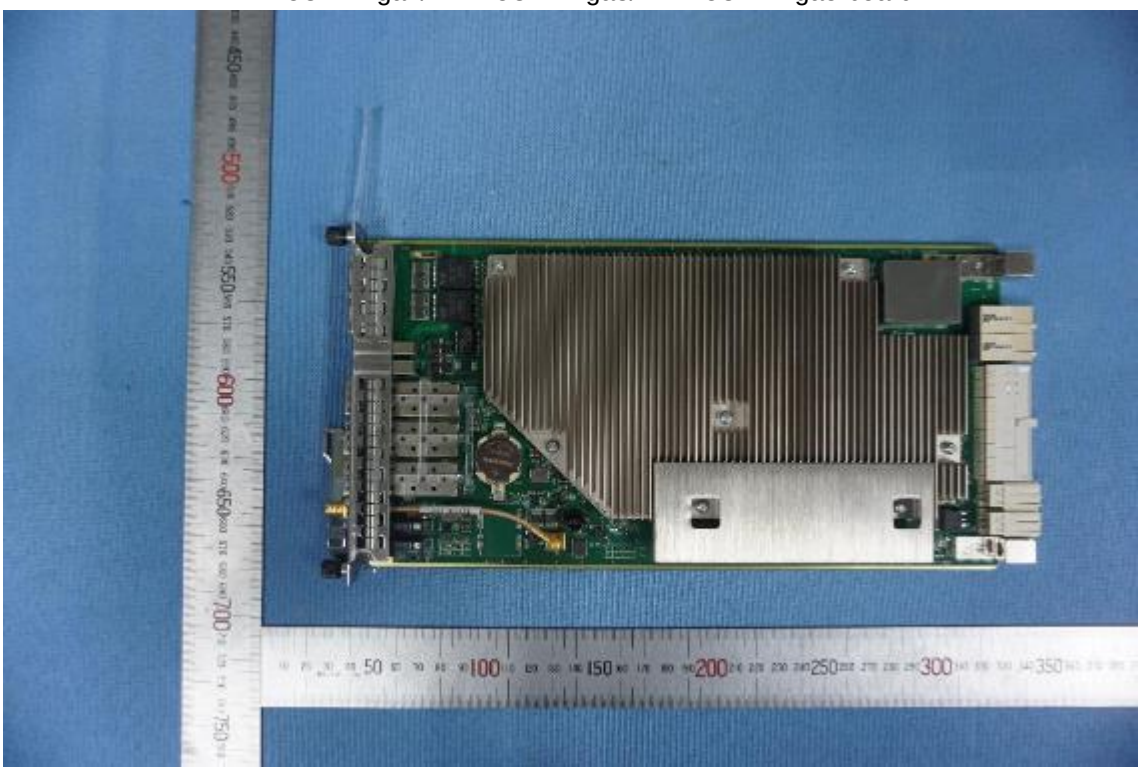


Photo-63, Bottom view of WD24UMPTga1/ WD24UMPTga2/ WD24UMPTga3/ WD24UMPTga5/ WD2DUMPTGA10/ WD2DUMPTGA11/ WD2DUMPTGA20/ WD2DUMPTGA21/ WD2DUMPTGA30/ WD2DUMPTGA31/ WD2DUMPTGA50/ WD2DUMPTE180/ WD2DUMPTE190/ WD25UMPTga1/ WD25UMPTga2/ WD25UMPTga3/ WD25UMPTga5 board

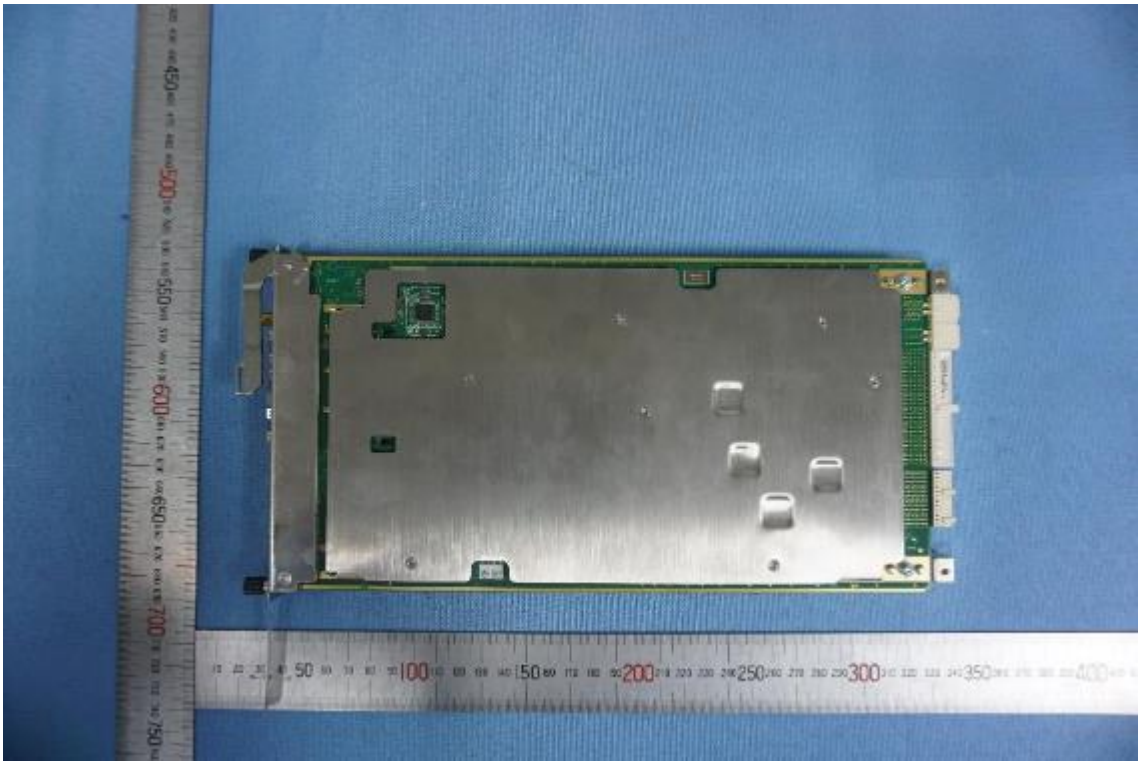


Photo-64, Top view of WD21UBBPei board

Photo-65, Bottom view of WD21UBBPei board

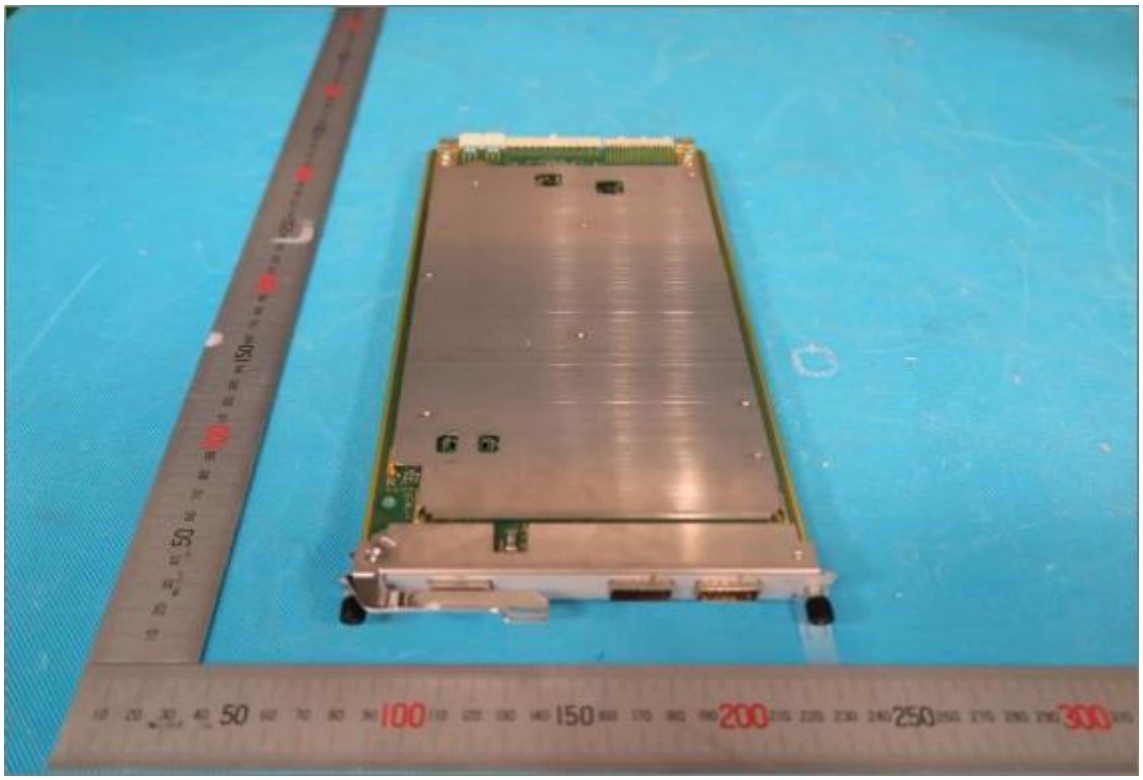


Photo-66, Top view of WD21UBBPep board

Photo-67, Bottom view of WD21UBBPep board

Photo-68, Top view of WD22UBBPf1 board

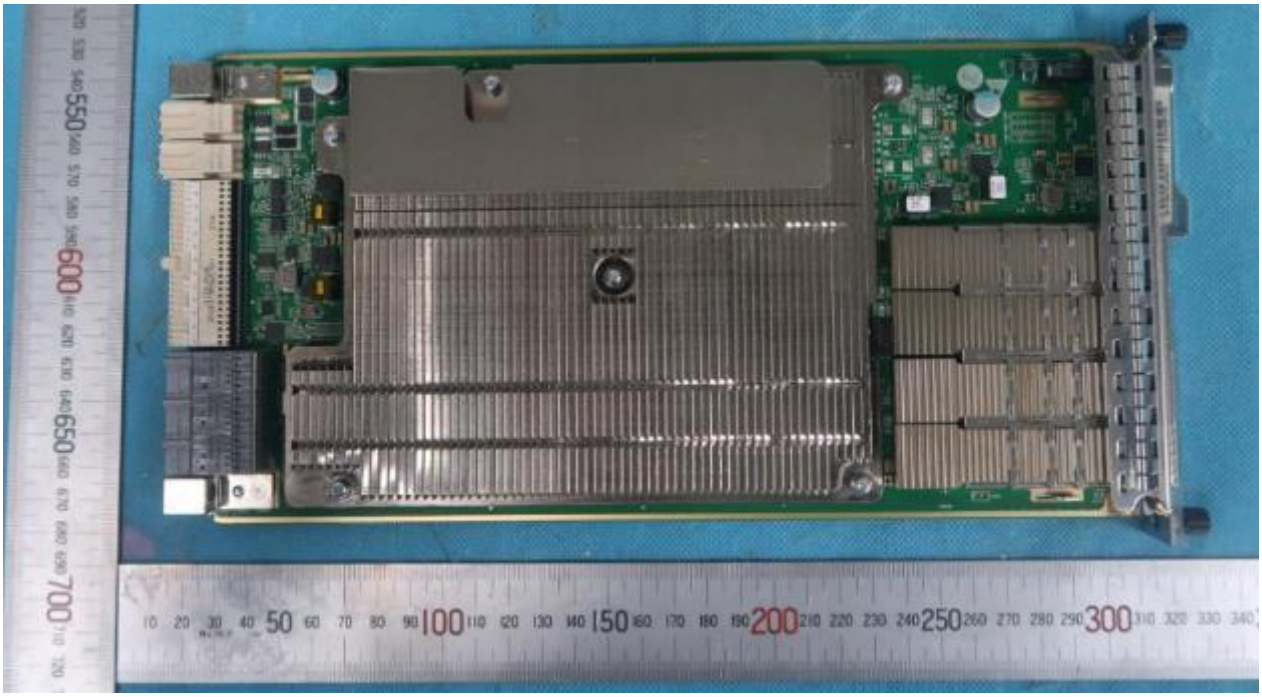


Photo-69, Bottom view of WD22UBBPf1 board

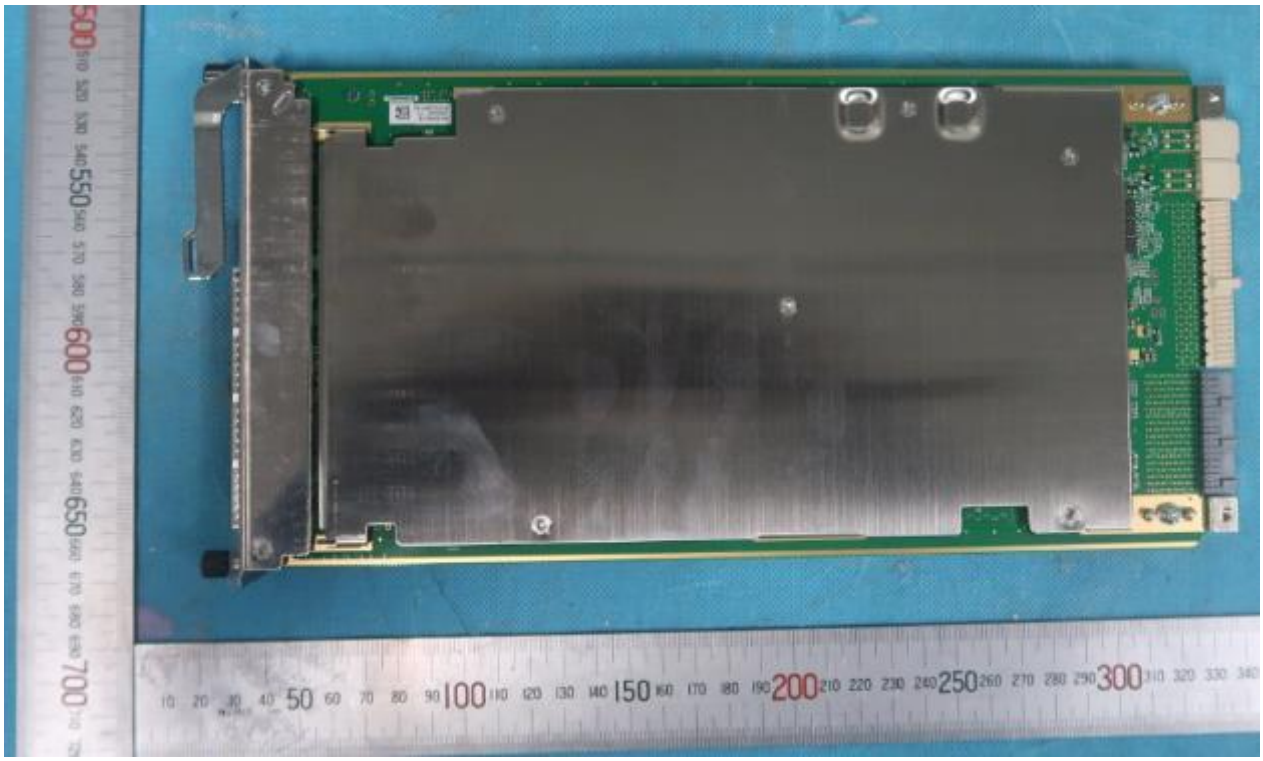


Photo-70, Top view of WD22UBBPf3 board

Photo-71, Bottom view of WD22UBBPf3 board

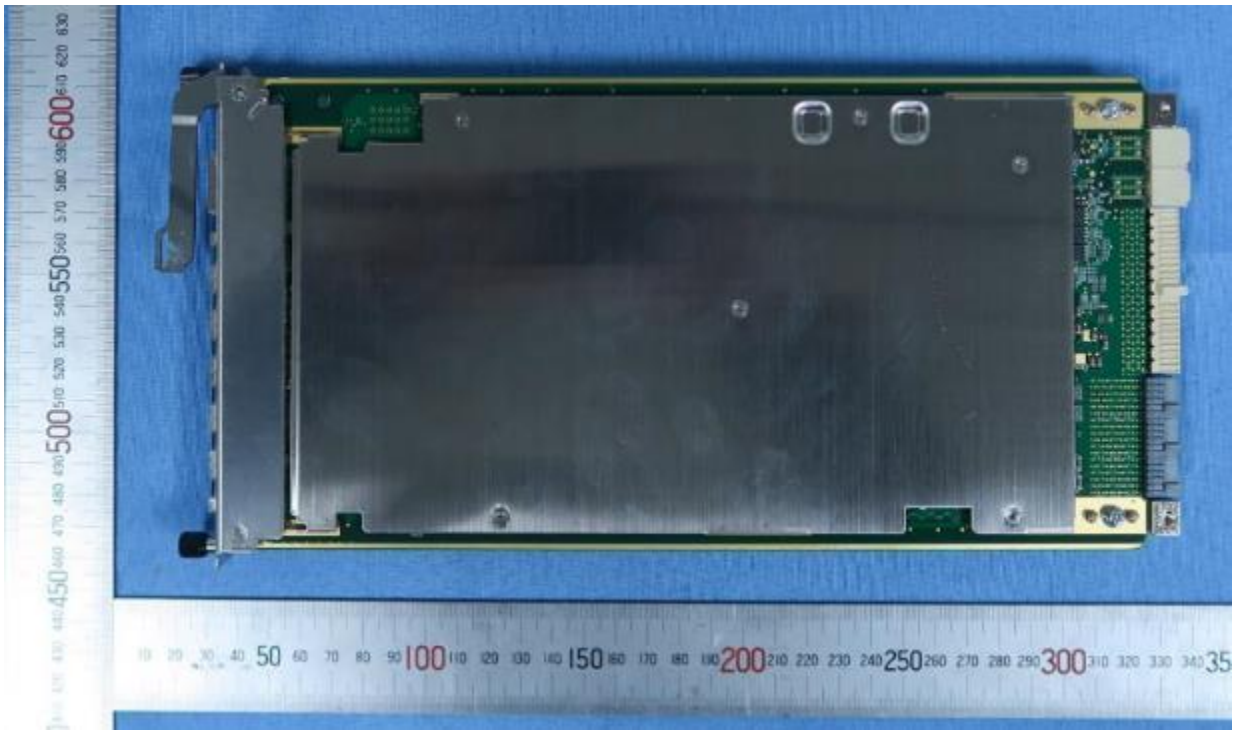


Photo-72, Top view of WD23UBBPd9 board

Photo-73, Top view of WD23UMPTb4 board

Photo-74, Top view of WD22UMPTb2 board

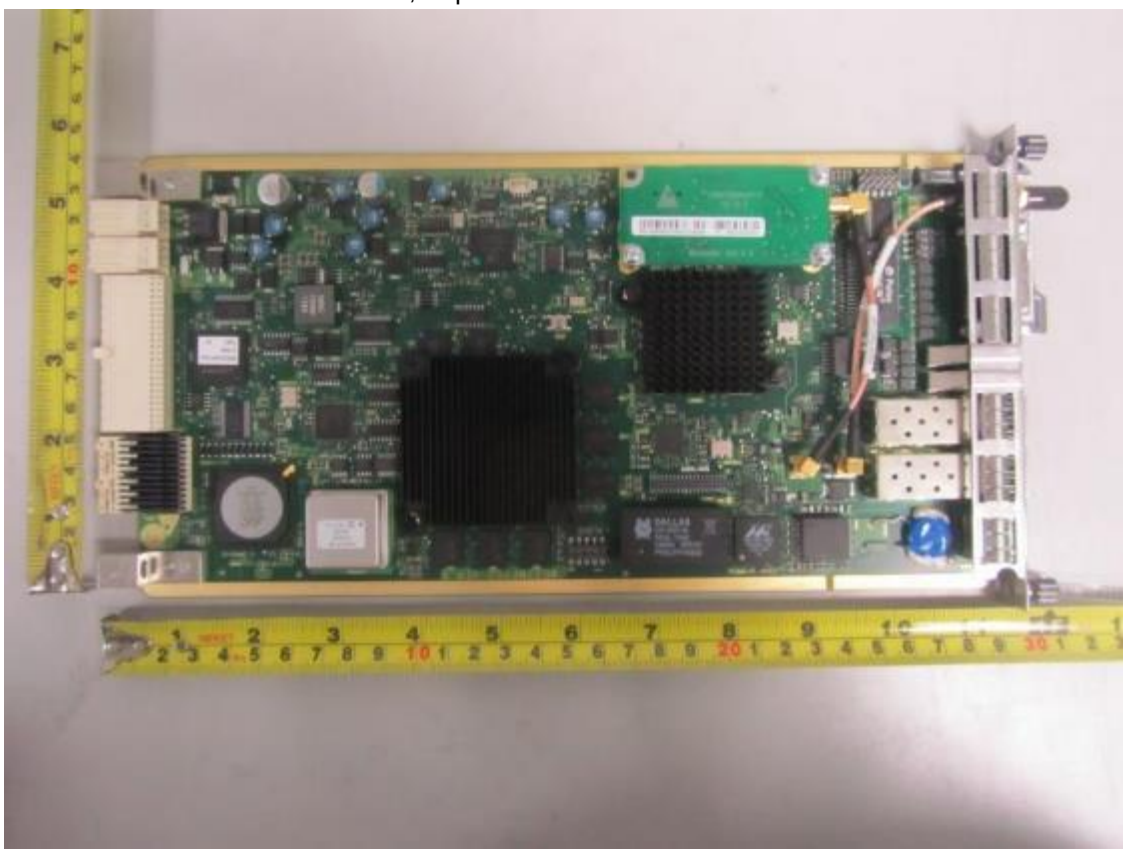


Photo-75, Bottom view of WD22UMPTb2 board

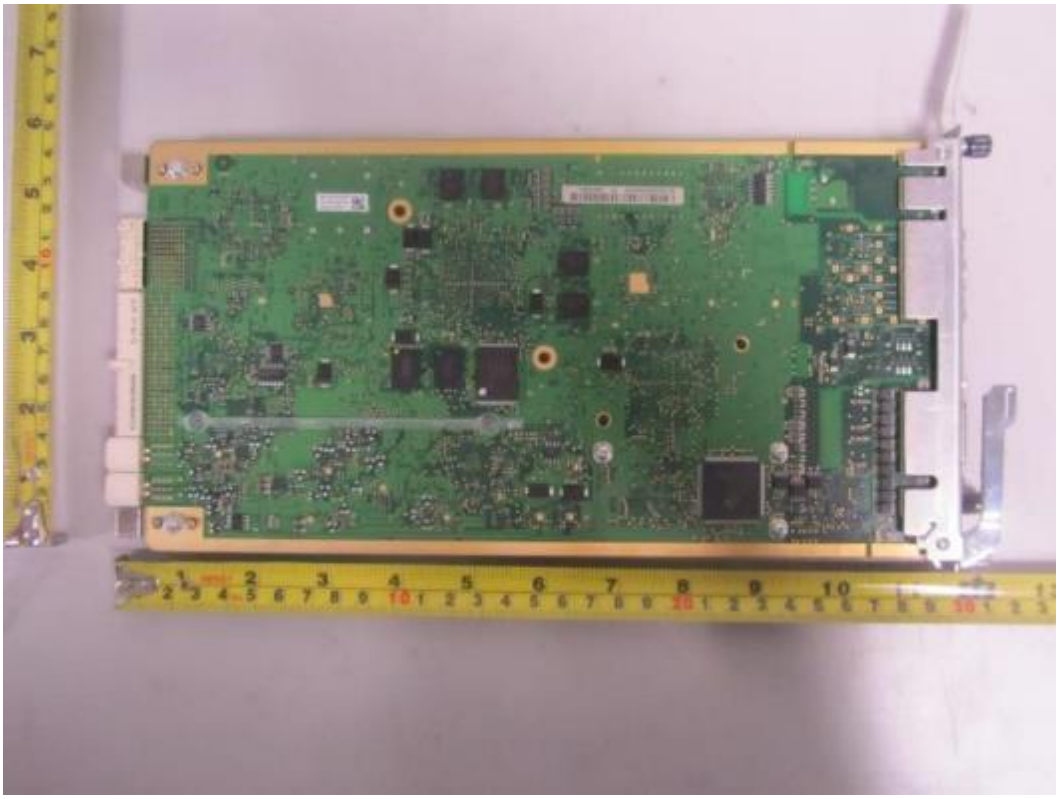


Photo-76, Top view of WD24UMPTb4/WD26UMPTb4B/WD23UMPTb9 board

Photo-77, Bottom view of WD24UMPTb4/WD26UMPTb4B/WD23UMPTb9 board

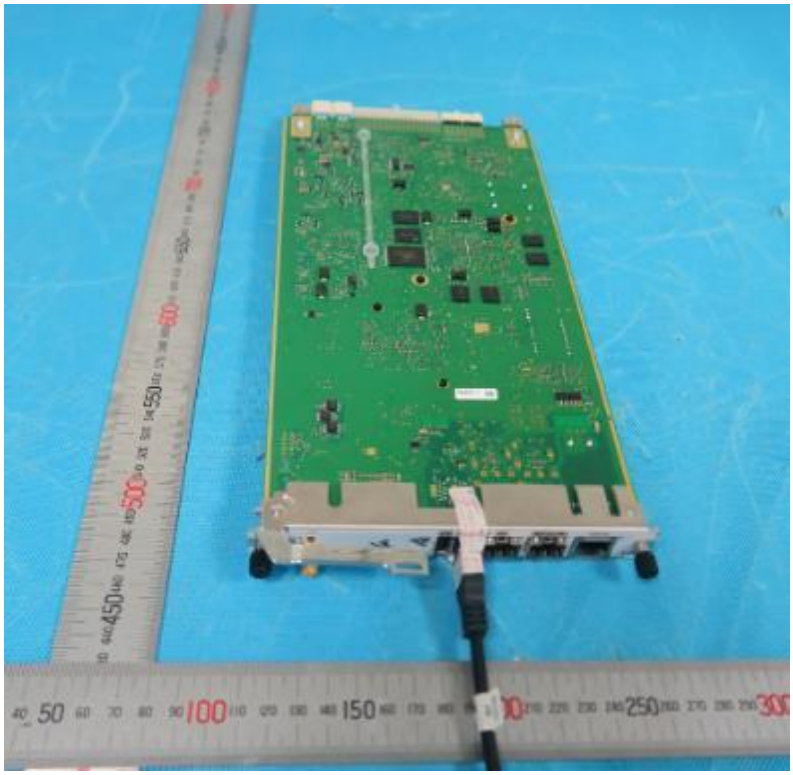


Photo-78, Top view of WD22UELP board

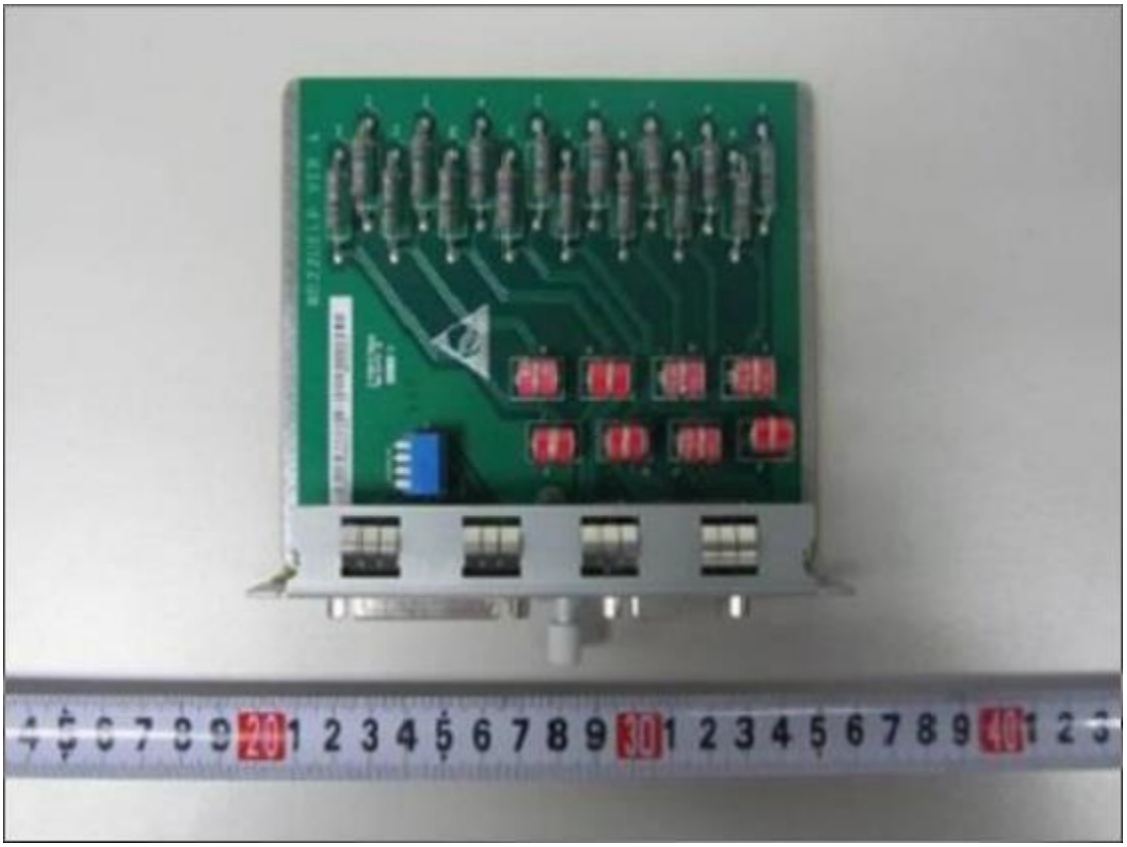


Photo-79, Bottom view of WD22UELP board

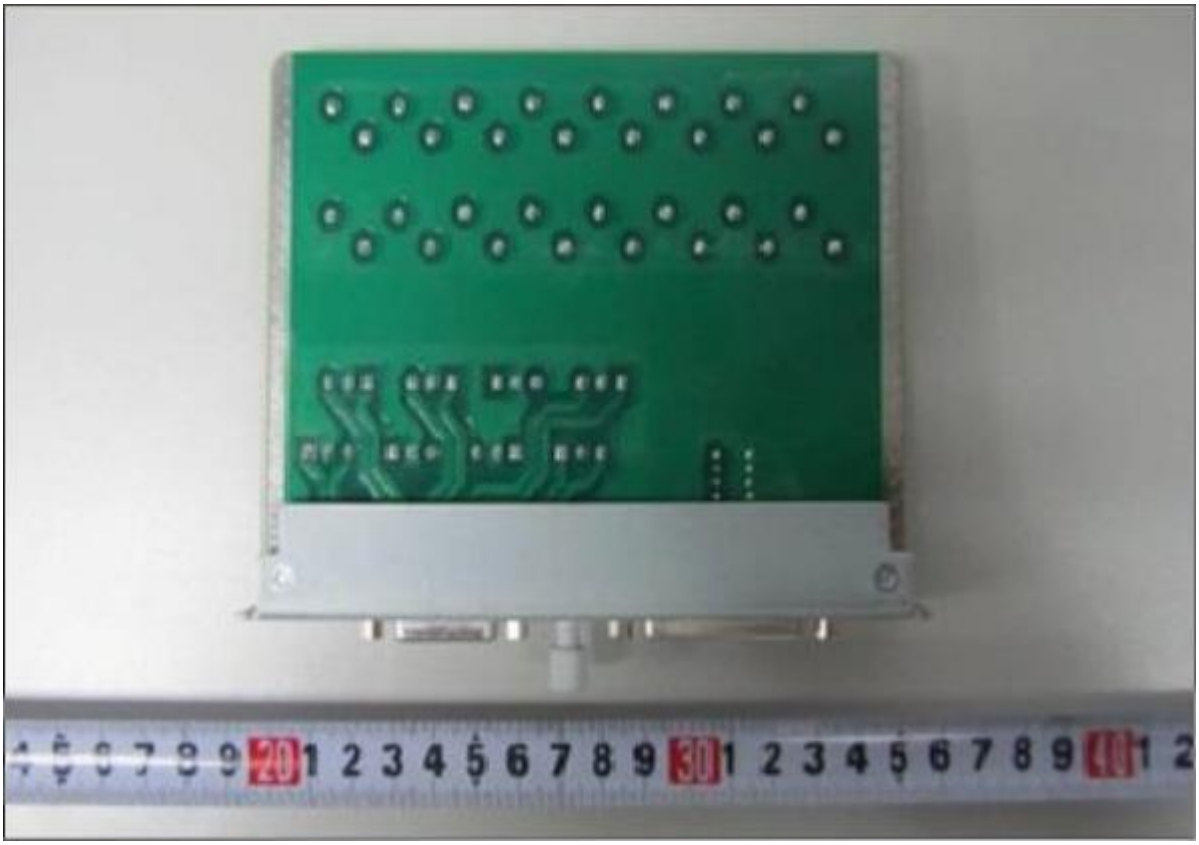


Photo-80, Top view of WD22GTMUc board

Photo-81, Bottom view of WD22GTMUc board

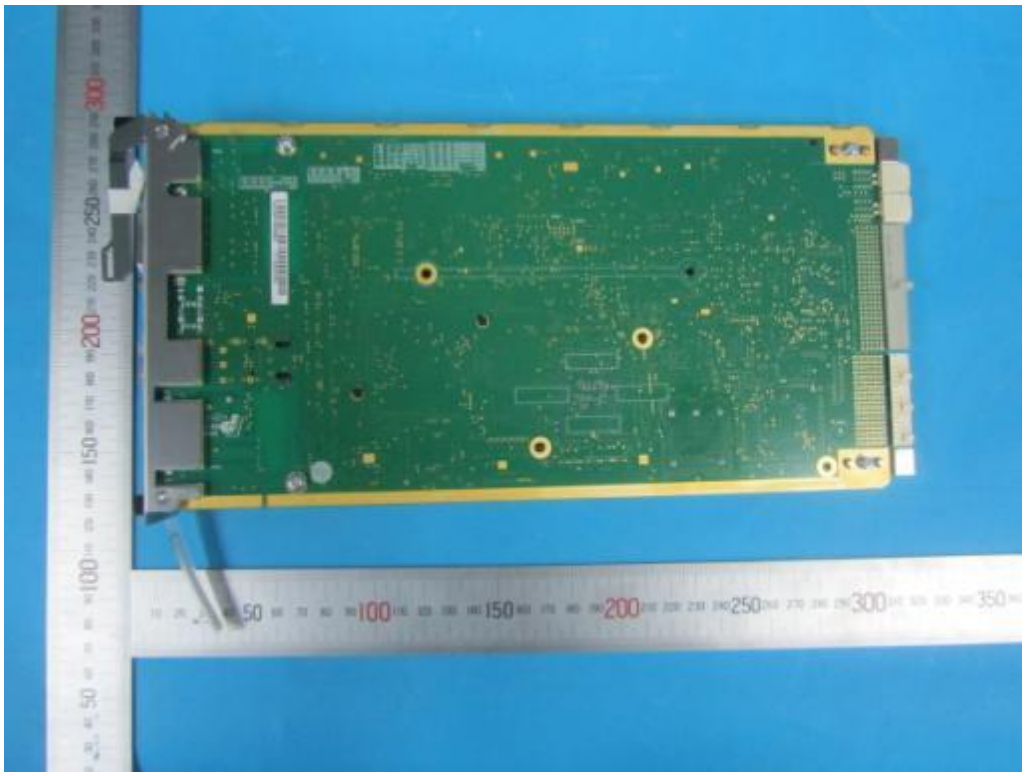


Photo-82, Top view of WD22UTRPC board

Photo-83, Bottom view of WD22UTRPC board

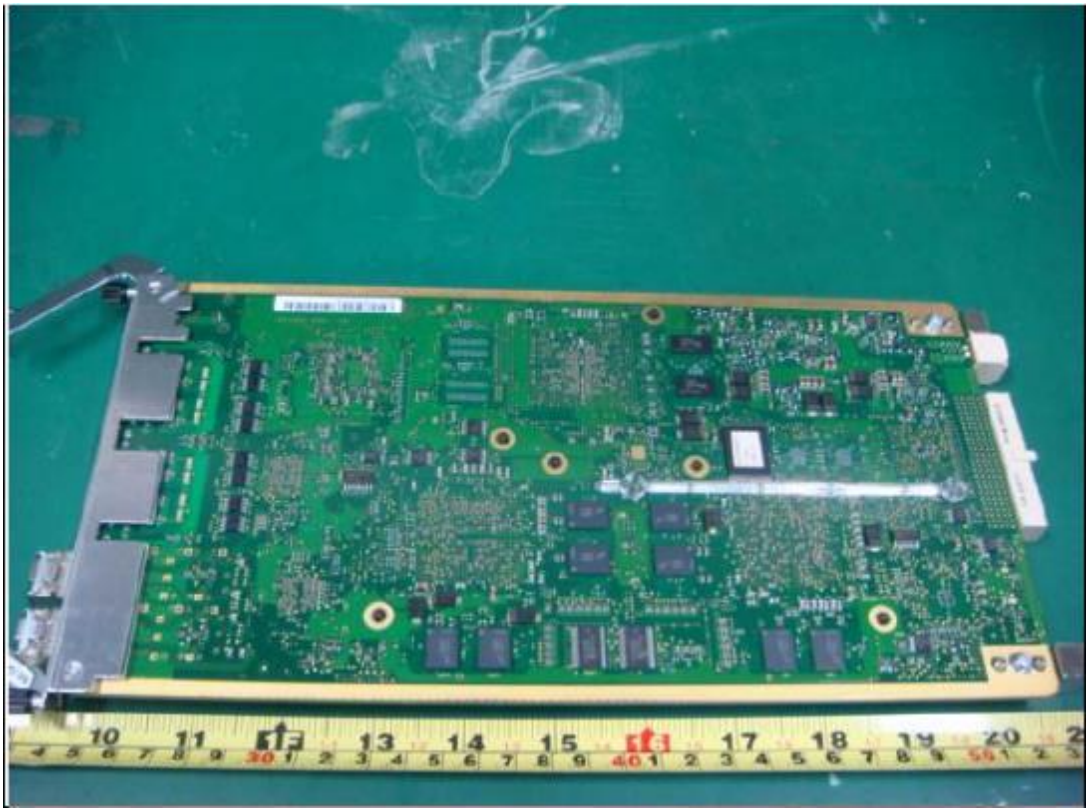


Photo-84, Top view of WD24UBBPg1/ WD2DUBBPG1C0 board

Photo-85, Bottom view of WD24UBBPg1/ WD2DUBBPG1C0 board

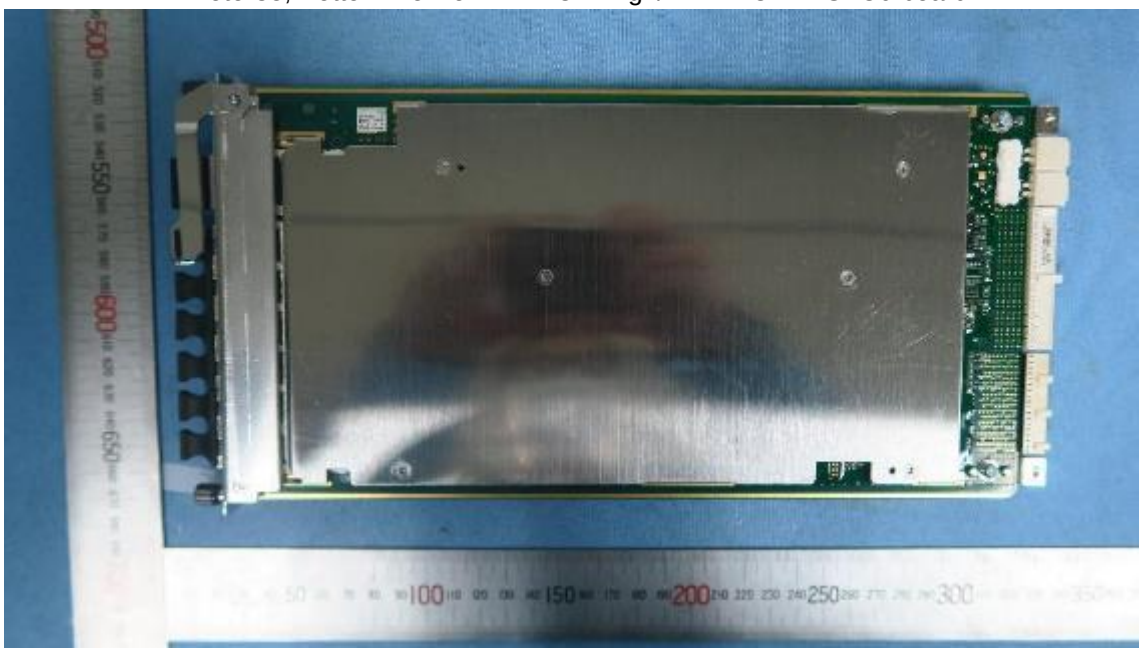


Photo-86, Top view of WD29UBBPg1 board

Photo-87, Bottom view of WD29UBBPg1 board

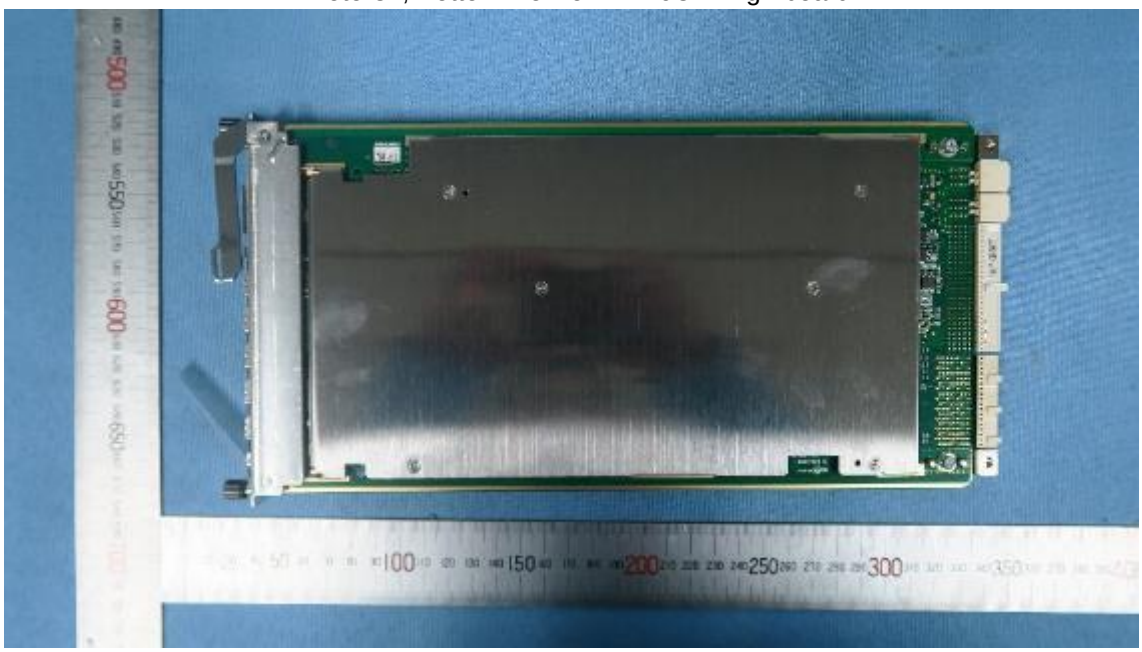


Photo-88, Top view of WD24UMPTg2tf / WD2DUMPTG2TH board

Photo-89, Bottom view of WD24UMPTg2tf / WD2DUMPTG2TH board

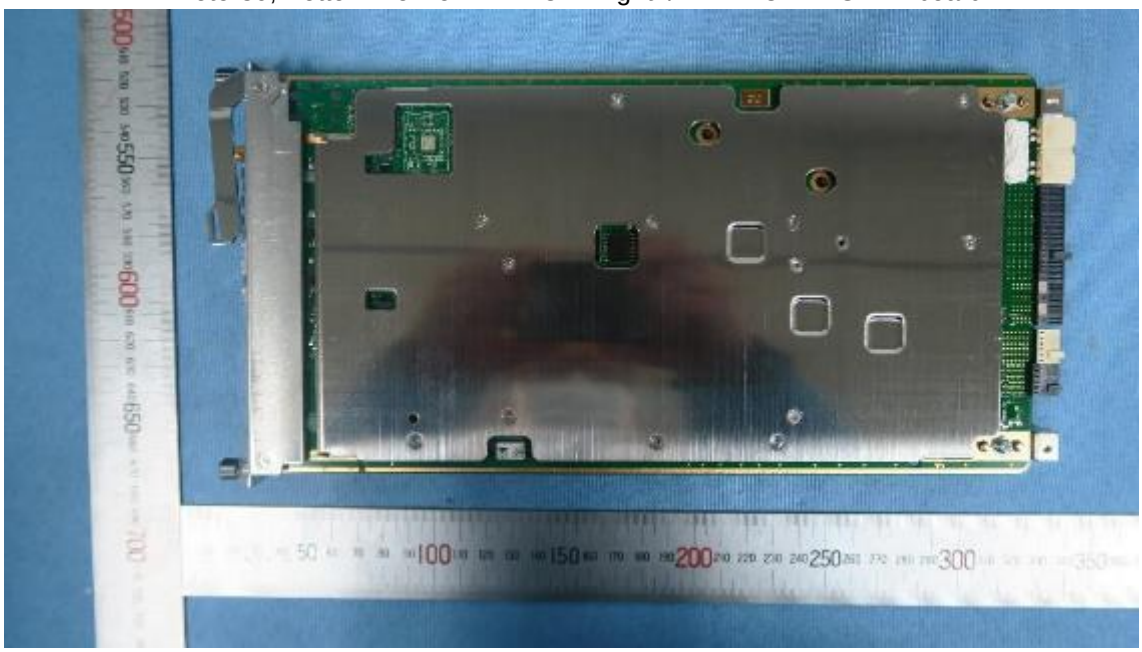


Photo-90, Top view of WD29UBBPg1/ WD27UBBPg1/ WD28UBBPg1 board

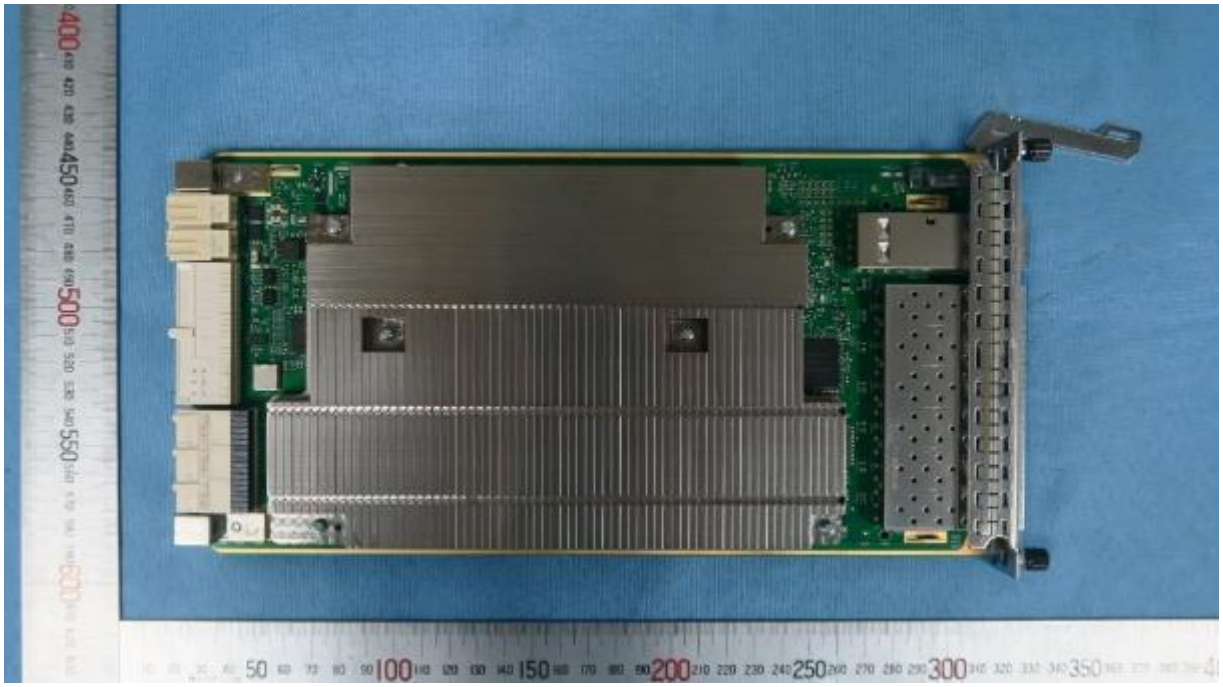


Photo-91, Bottom view of WD29UBBPg1/ WD27UBBPg1/ WD28UBBPg1 board

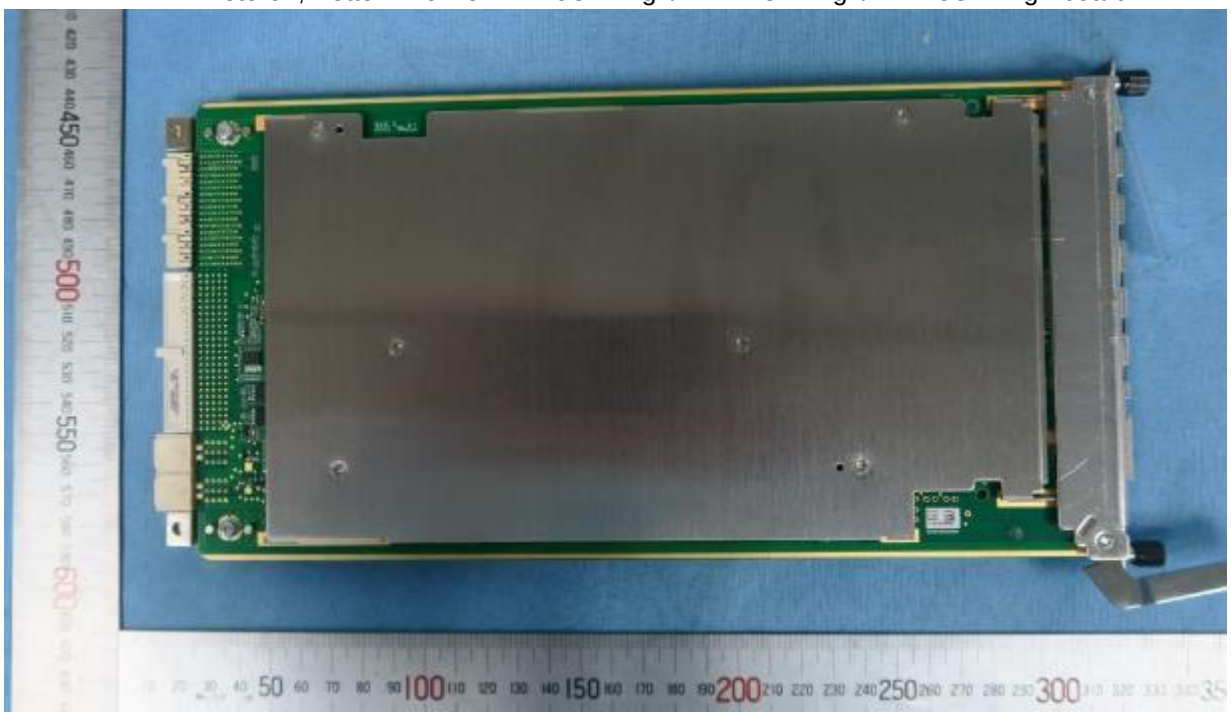


Photo-92, Top view of WD29UBBPe18 board

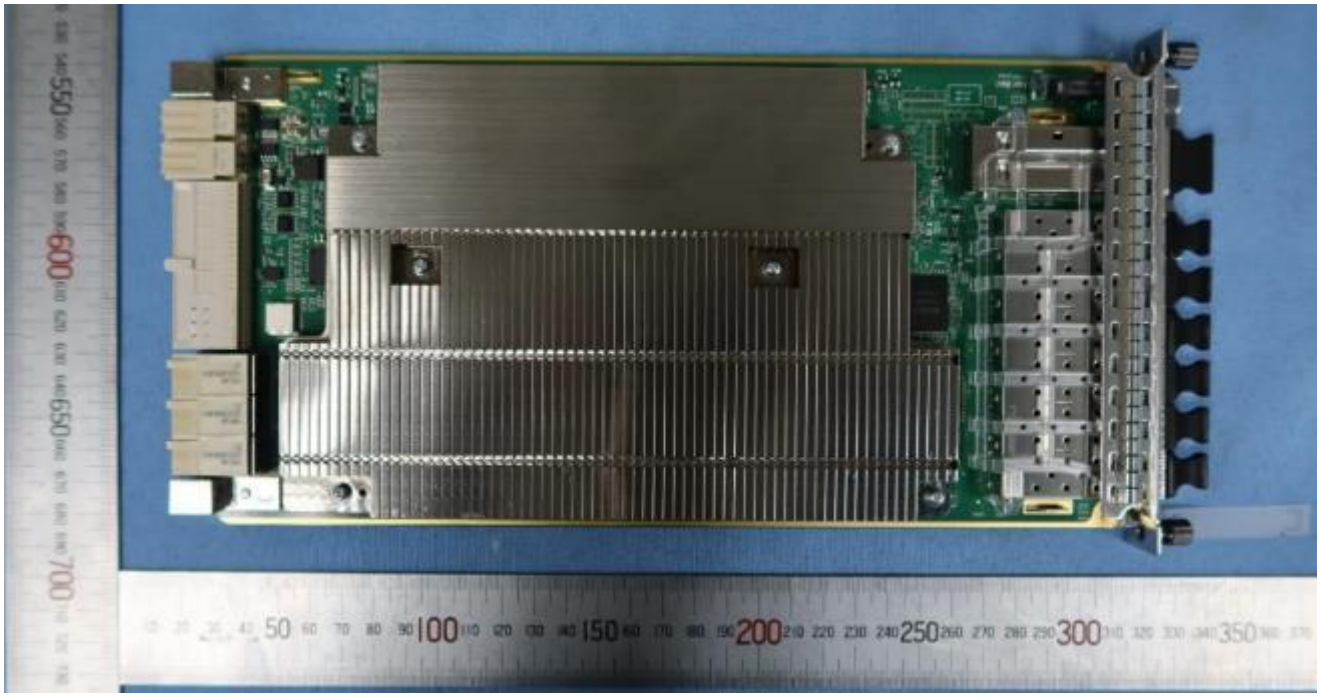


Photo-93, Bottom view of WD29UBBPe18 board

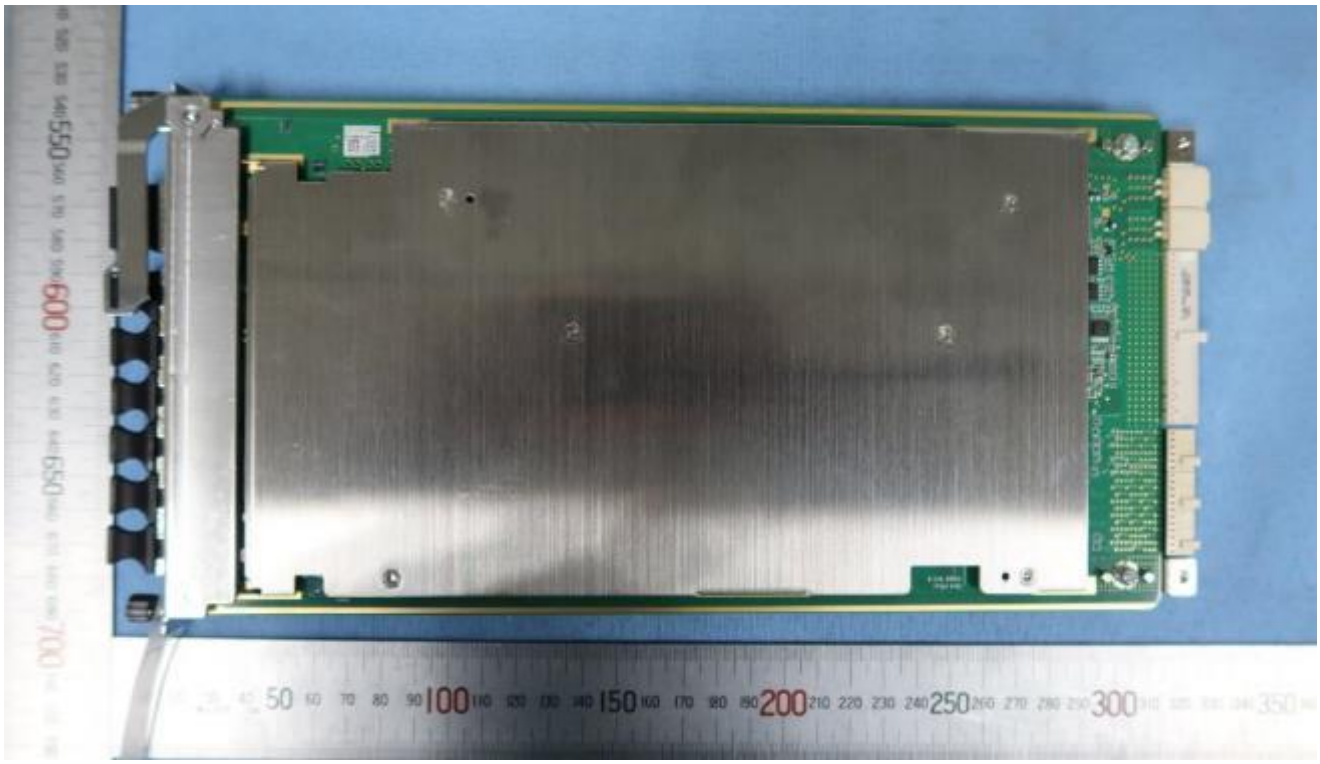


Photo-94, Warning Label

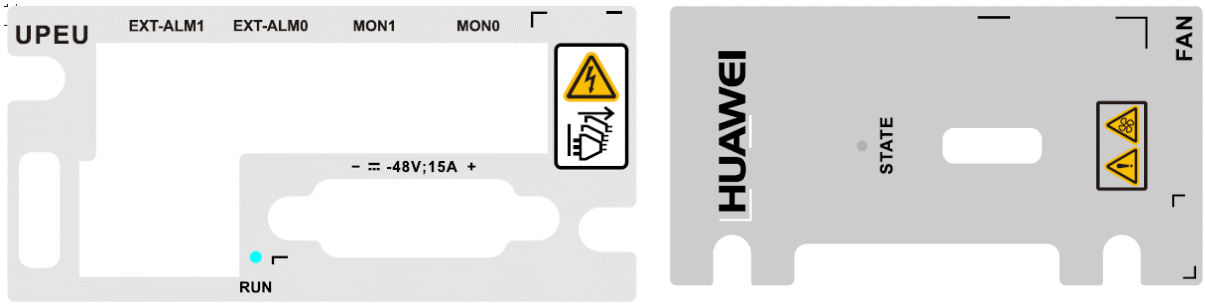


Photo-95, Top view of WD2CUBBPg2 board

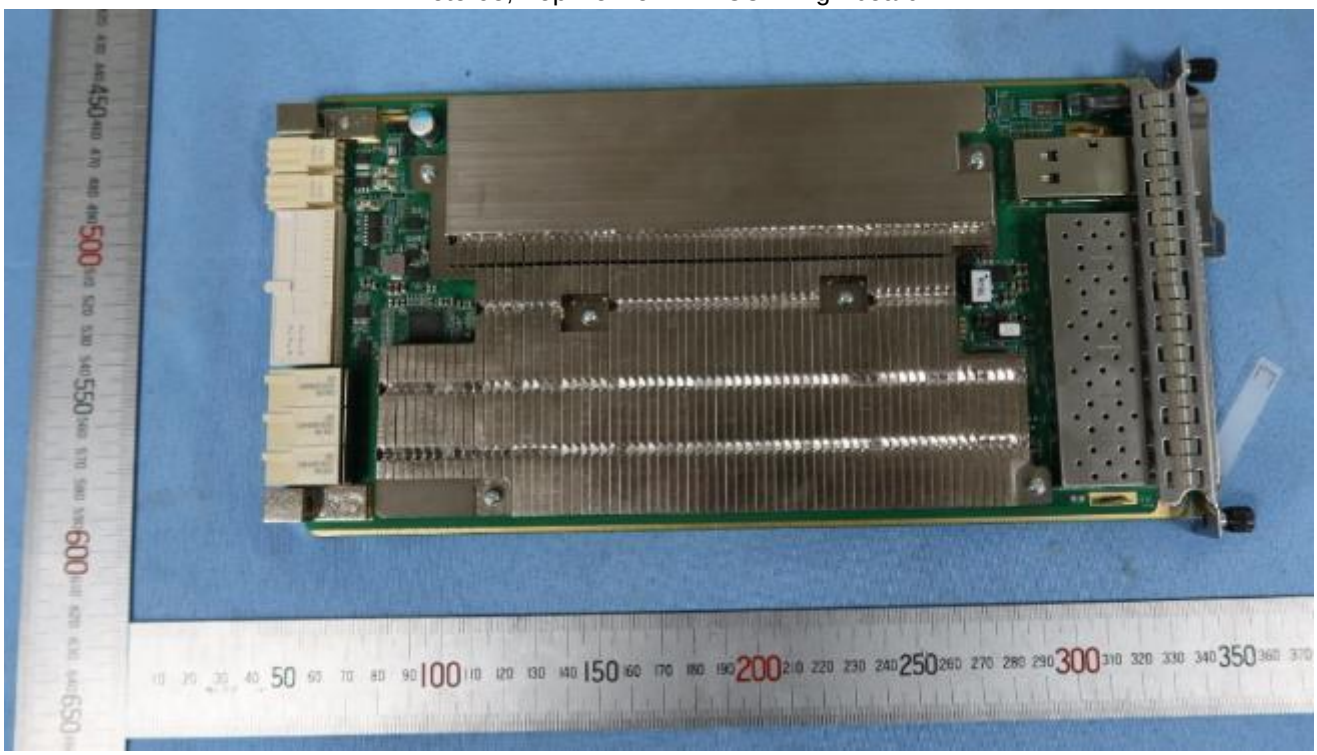


Photo-96, Bottom view of WD2CUBBPg2 board

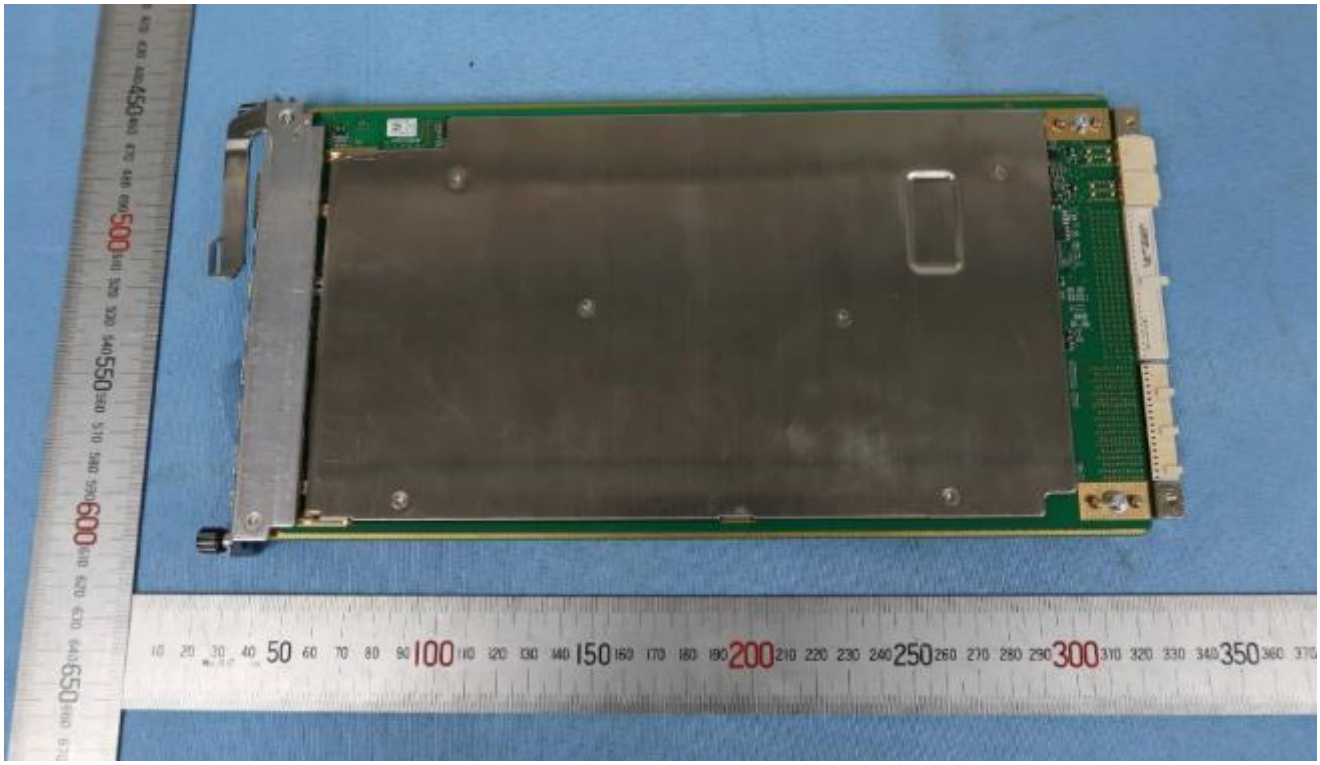


Photo-97, Top view of WD2BUBBPg3c/ WD2BUBBPg3/ WD2BUBBPg2ac/ WD2BUBBPg2a/ WD2BUBBPg2c/ WD2BUBBPg2 board

Photo-98, Bottom view of WD2BUBBPg3c/ WD2BUBBPg3/ WD2DUMPTE180/ WD2BUBBPg2a/ WD2BUBBPg2c/ WD2BUBBPg2 board

Photo-99, Top view of WD29UMPTg1/ WD29UMPTg2/ WD29UMPTg3/ WD29UMPTg5 board

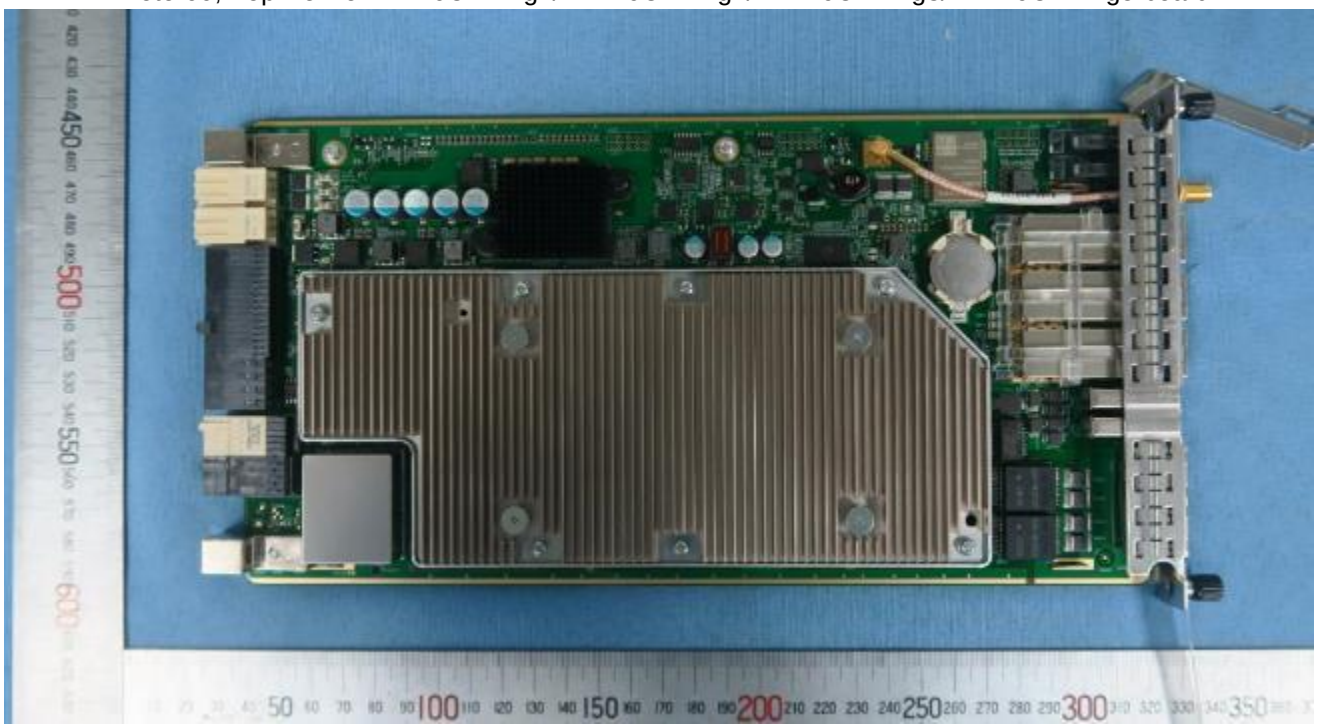


Photo-100, Bottom view of WD29UMPTg1/ WD29UMPTg2/ WD29UMPTg3/ WD29UMPTg5 board

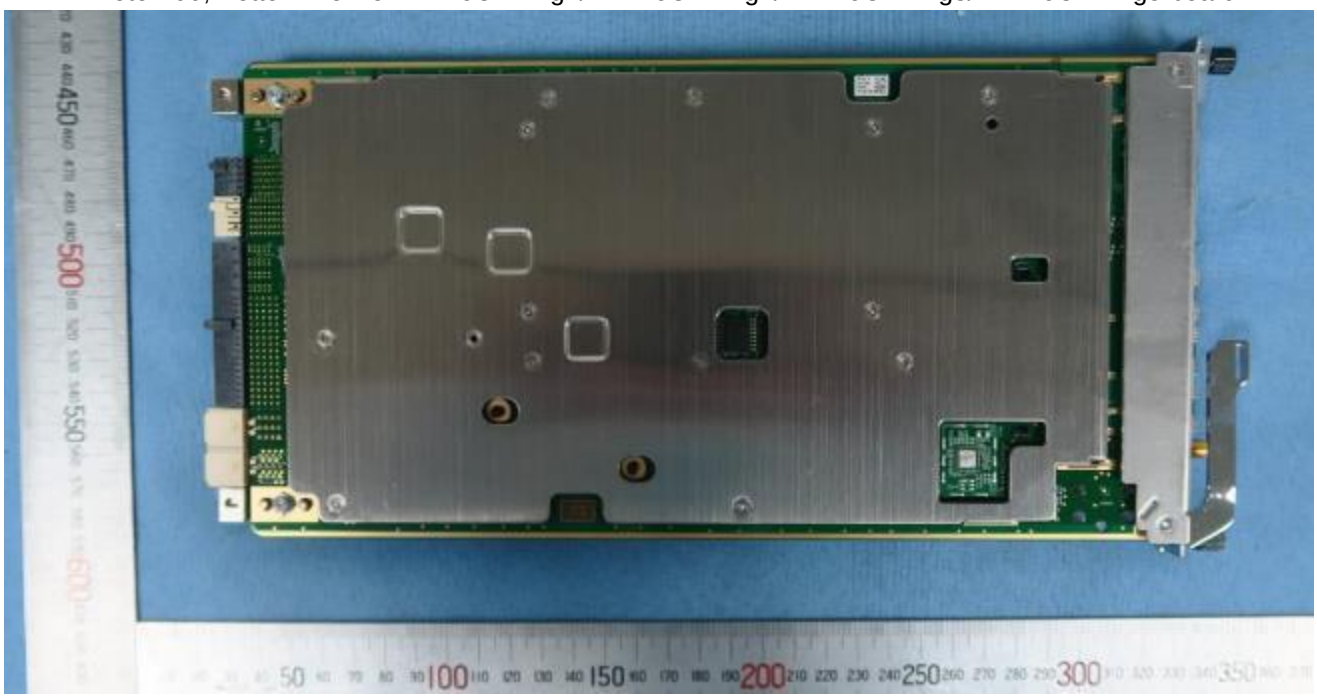


Photo-101, Top view of WD2FUBBPg2a/ WD2GUBBPg2a board

Photo-102, Bottom view of WD2FUBBPg2a/ WD2GUBBPg2a/ board

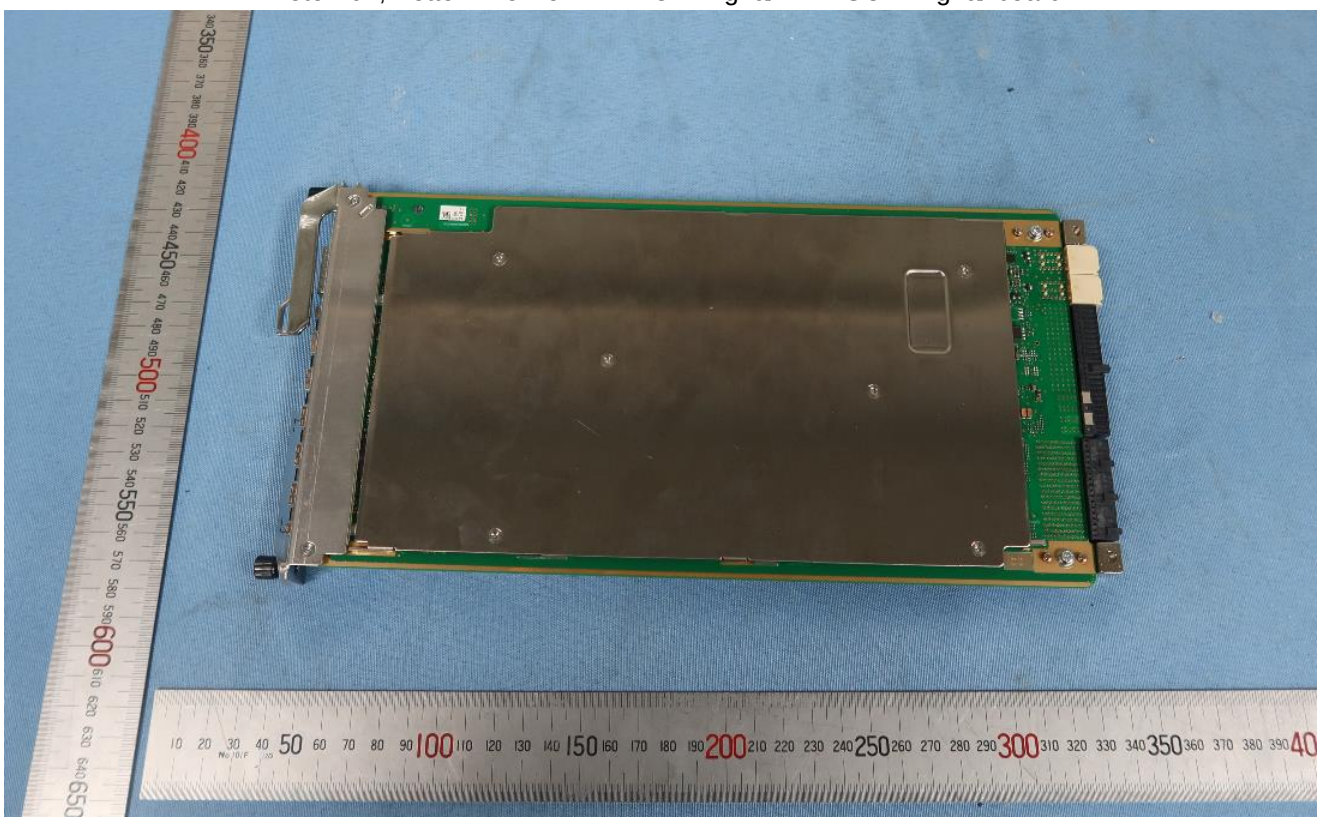


Photo-103, Top view of WD2FUBBPg3/ WD2GUBBPg3/ WD2HUBBPg2a/ WD2JUBBPg2a/ WD2FUBBPg2/ WD2GUBBPg2 board

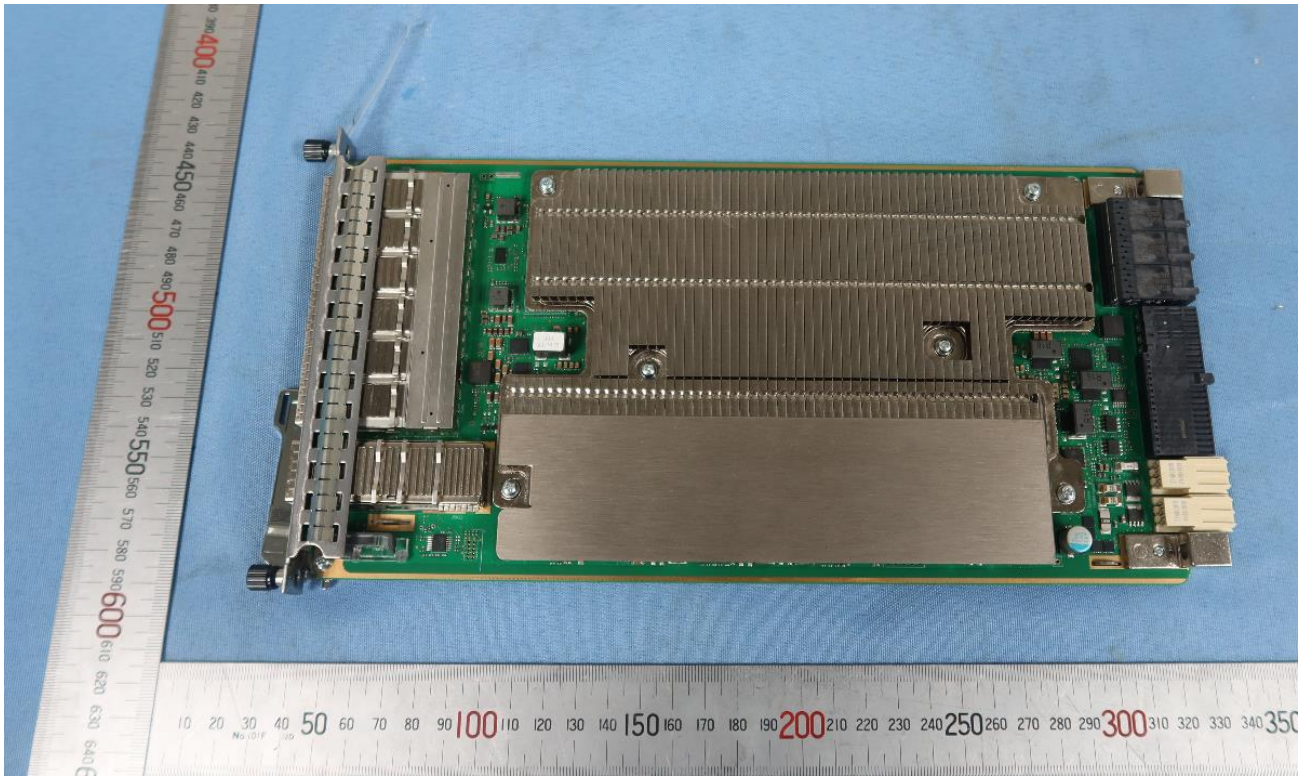


Photo-104, Bottom view of WD2FUBBPg3/ WD2GUBBPg3/ WD2HUBBPg2a/ WD2JUBBPg2a/ WD2FUBBPg2/ WD2GUBBPg2 board

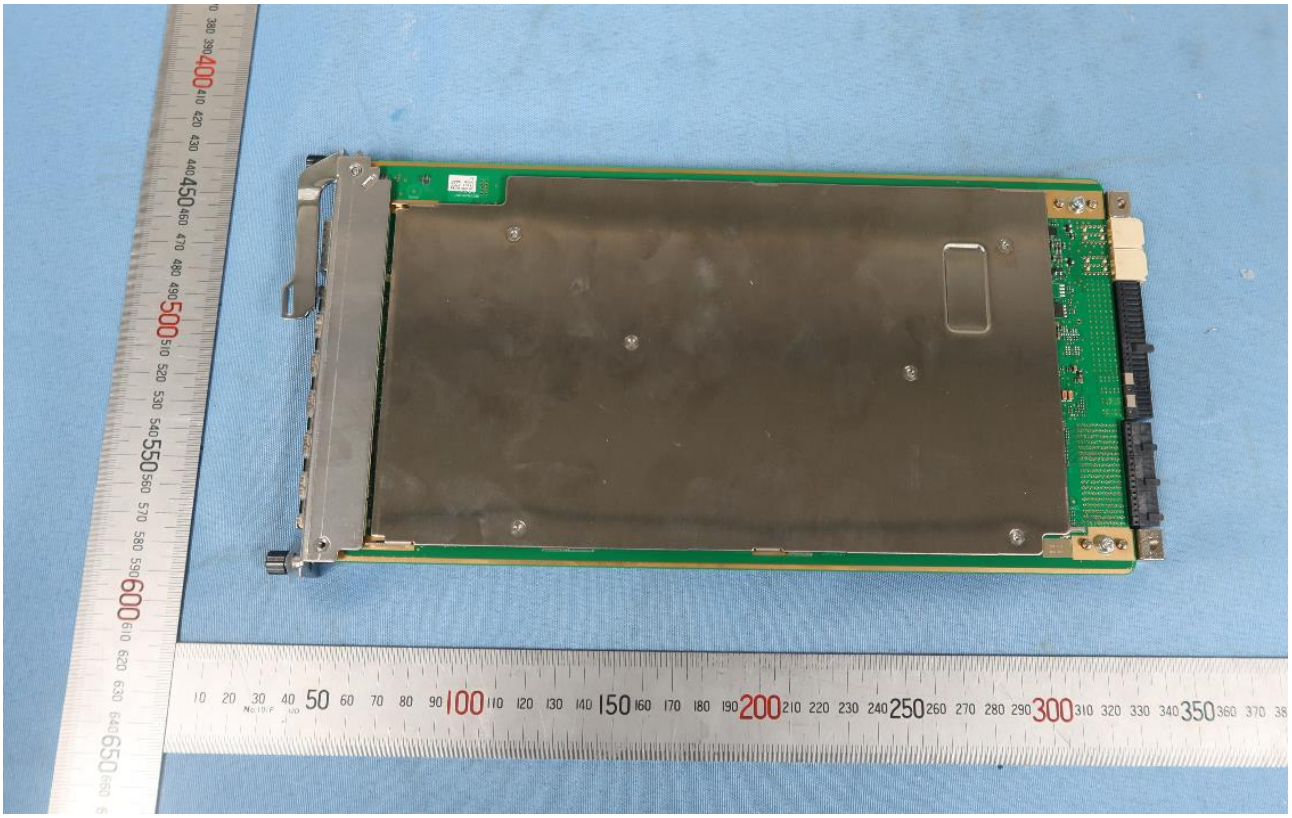


Photo-105, Top view of WD2JUBBPg2/ WD2HUBBPg2 board

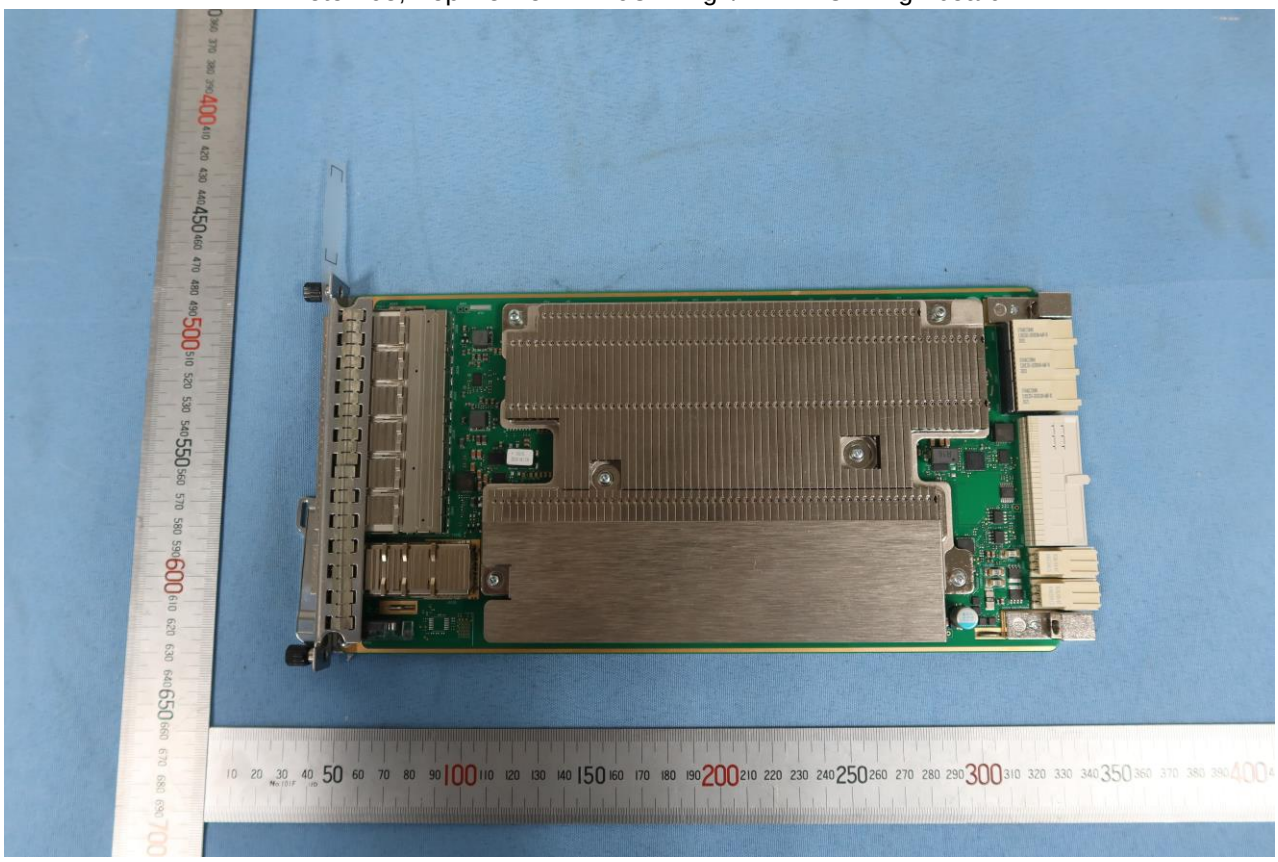


Photo-106, Bottom view of WD2JUBBPg2/ WD2HUBBPg2 board

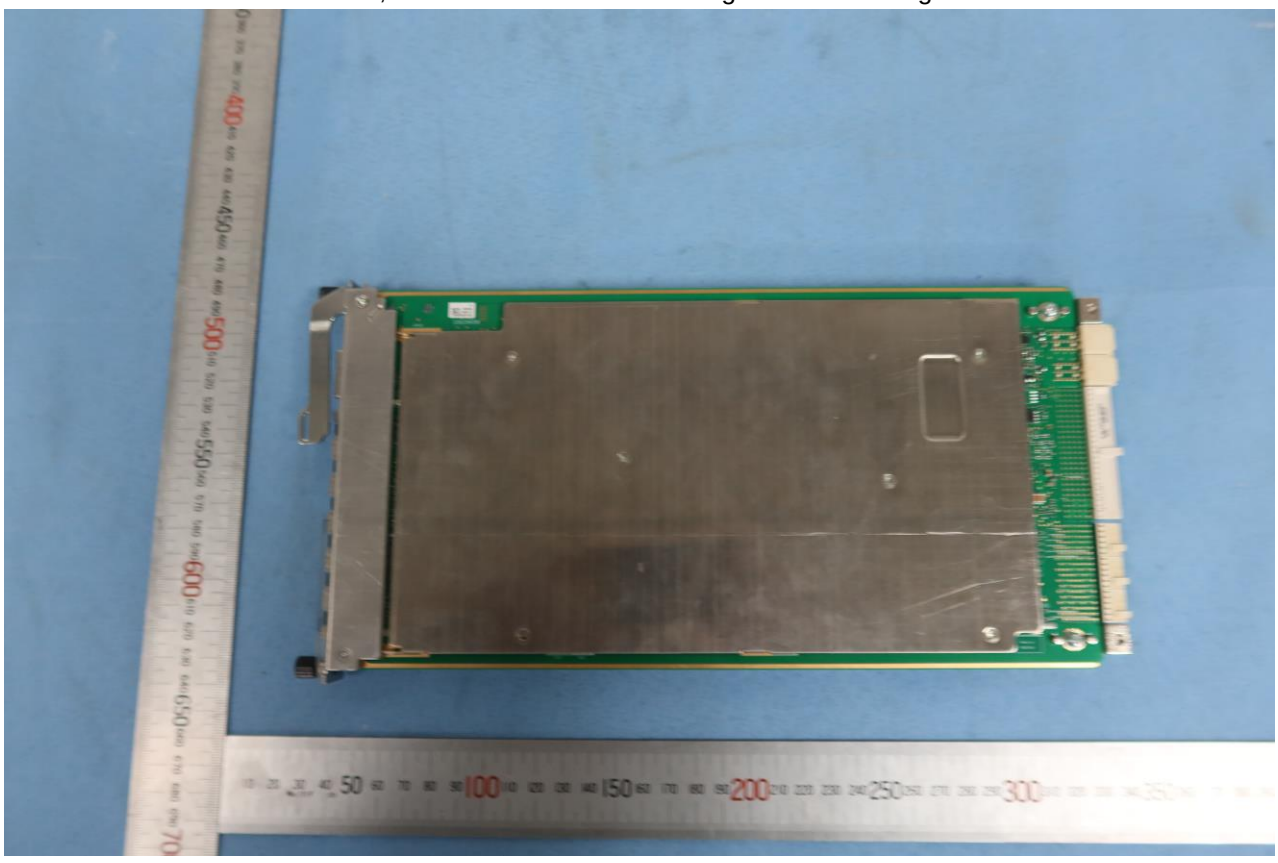


Photo-107, Top view of WD2JUBBPg1a/ WD2HUBBPg1a board

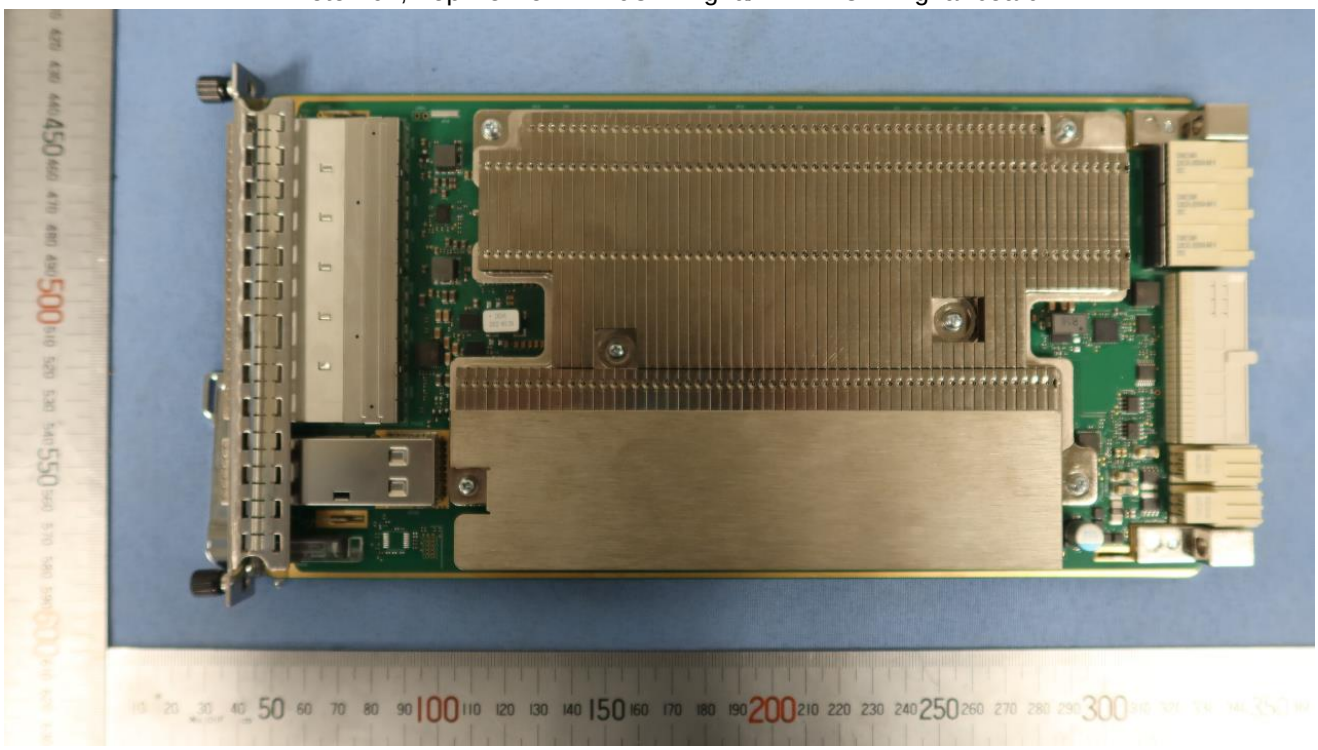


Photo-108, Bottom view of WD2JUBBPg1a/ WD2HUBBPg1a board

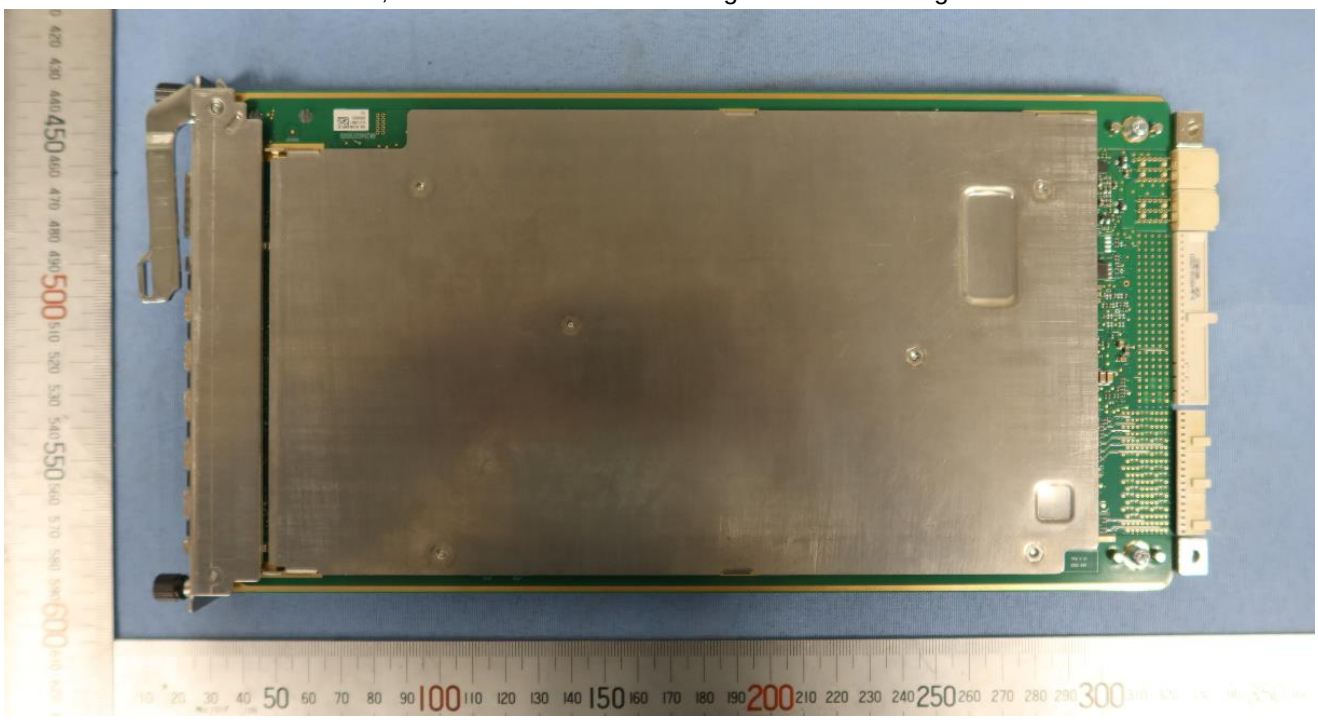


Photo-109, Top view of WD2AUBBPe3/ WD2BUBBPe3 board

Photo-110, Bottom view of WD2AUBBPe3/ WD2BUBBPe3 board

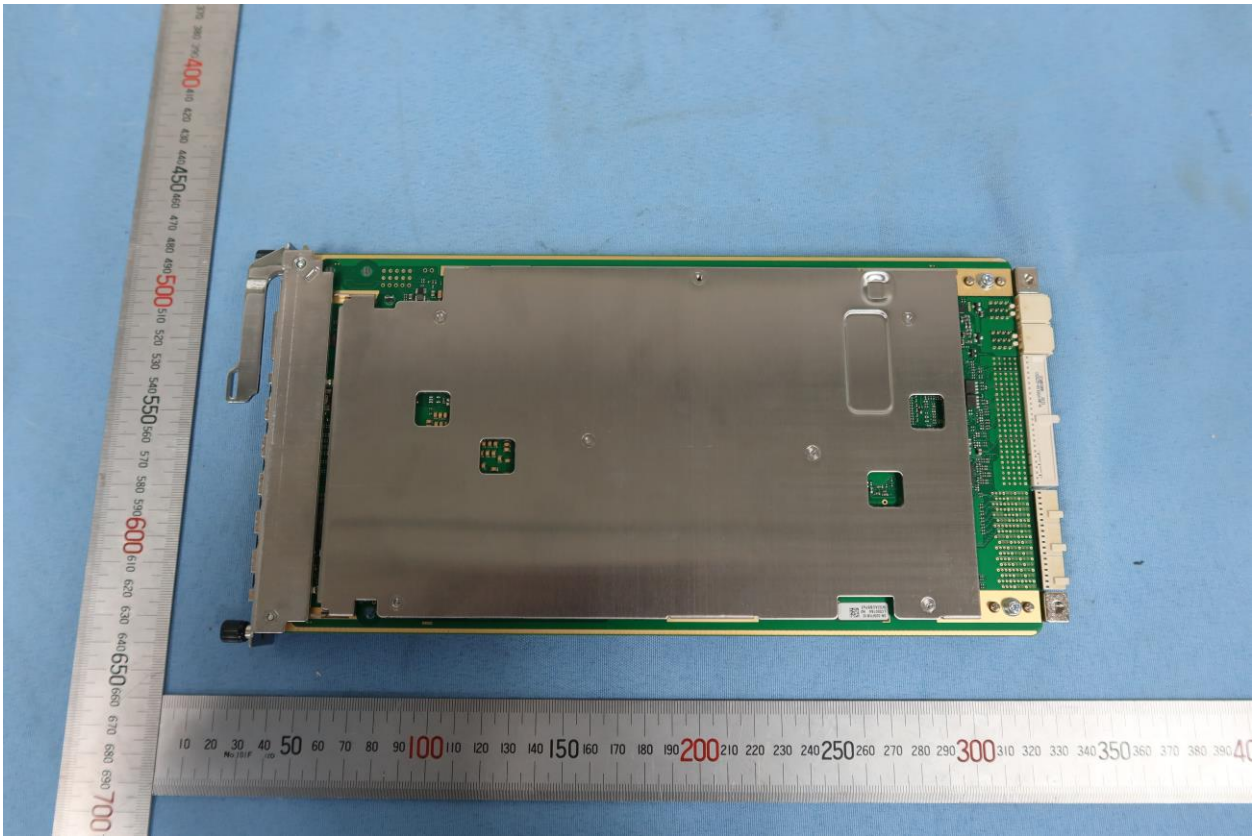


Photo-111, Top view of WD2KUBBPg1a/ WD2LUBBPg1a board

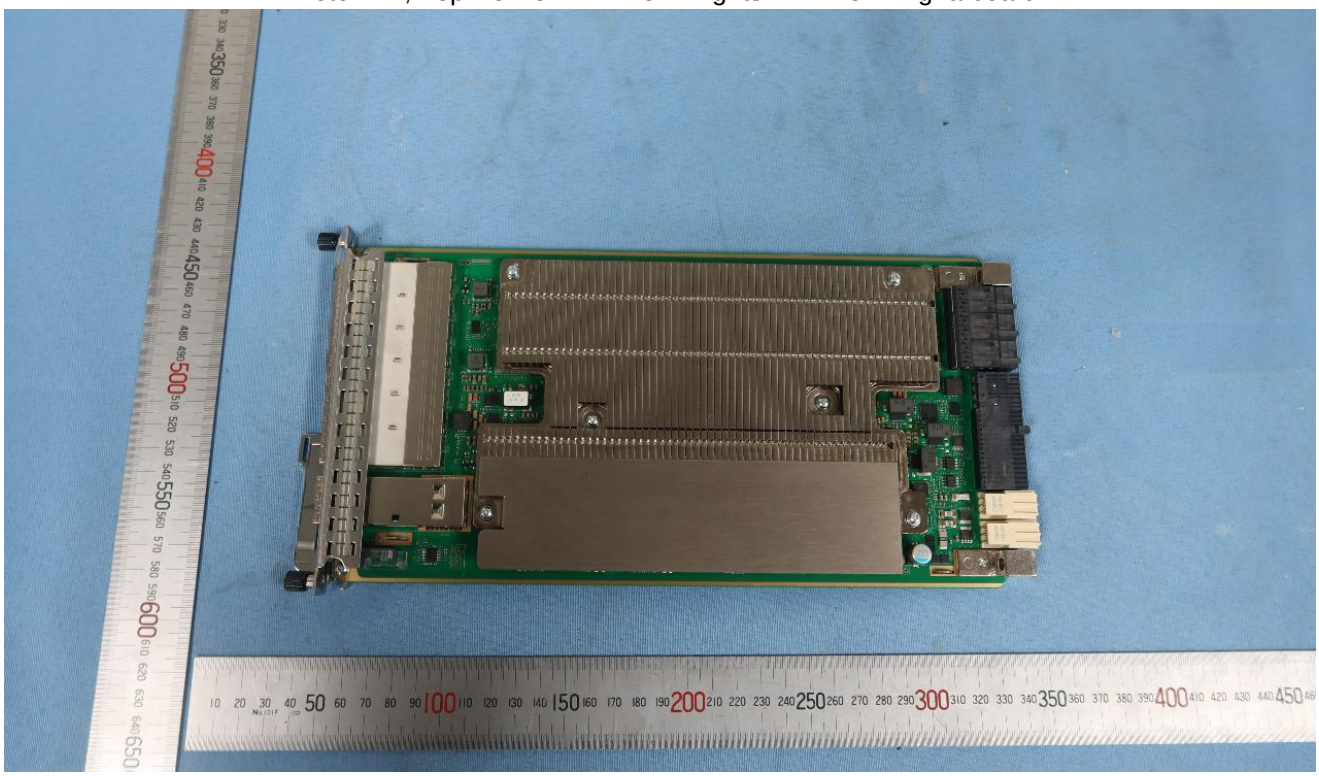


Photo-112, Bottom view of WD2KUBBPg1a/ WD2LUBBPg1a board

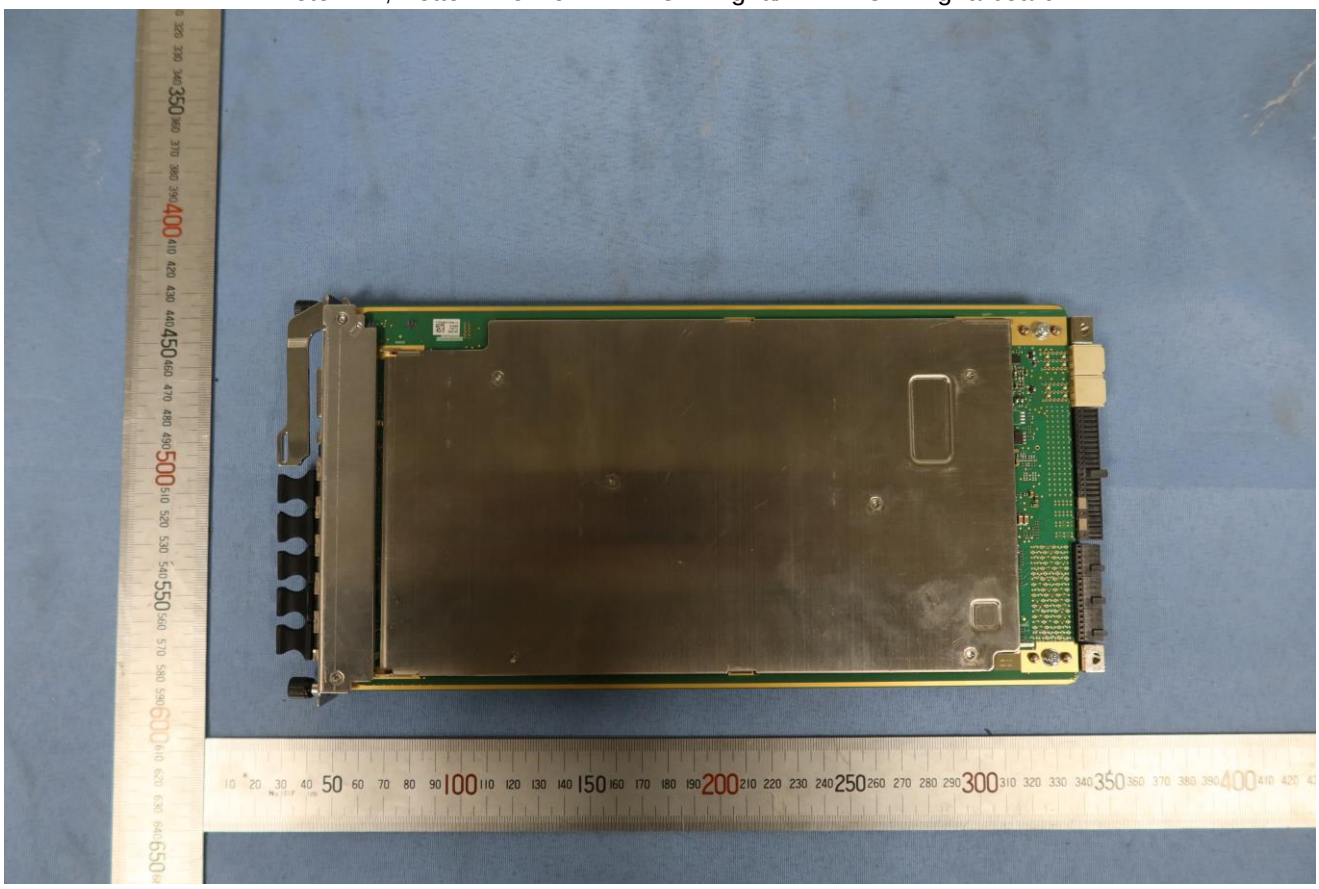


Photo-113, Top view of WD28UMPTe5, WD28UMPTe1, WD28UMPTe2, WD28UMPTe3 board

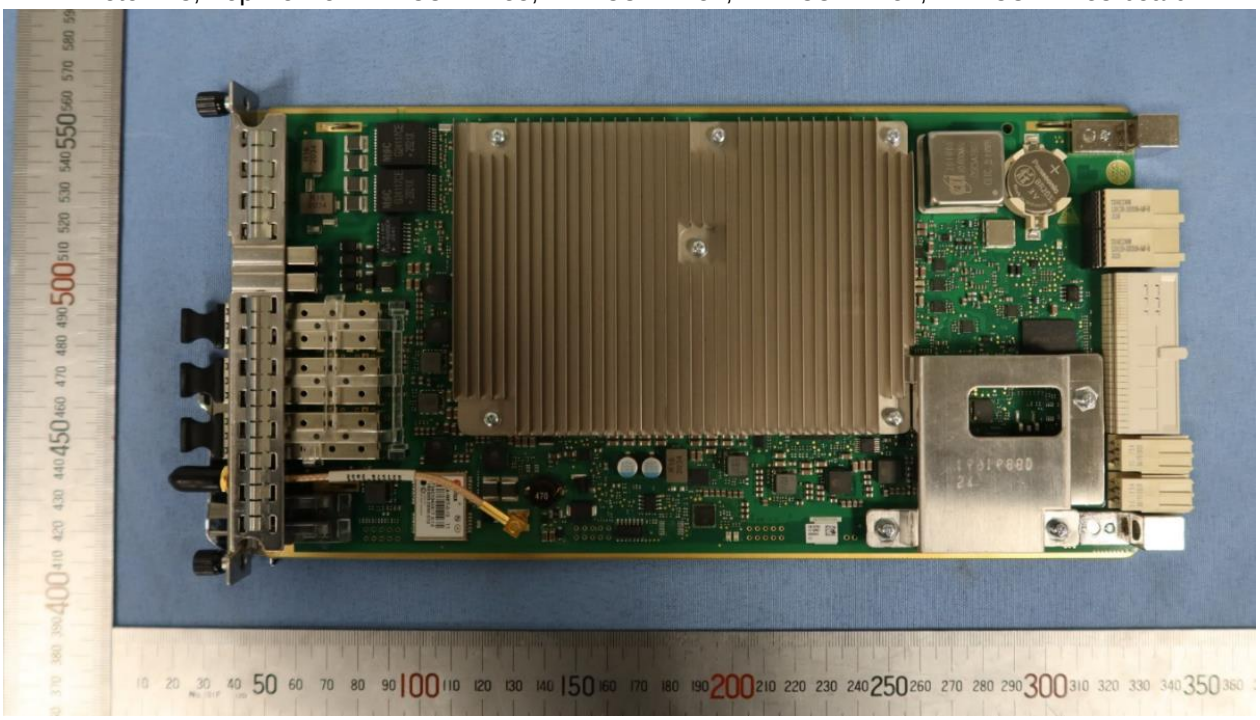


Photo-114, Bottom view of WD28UMPTe5, WD28UMPTe1, WD28UMPTe2, WD28UMPTe3 board

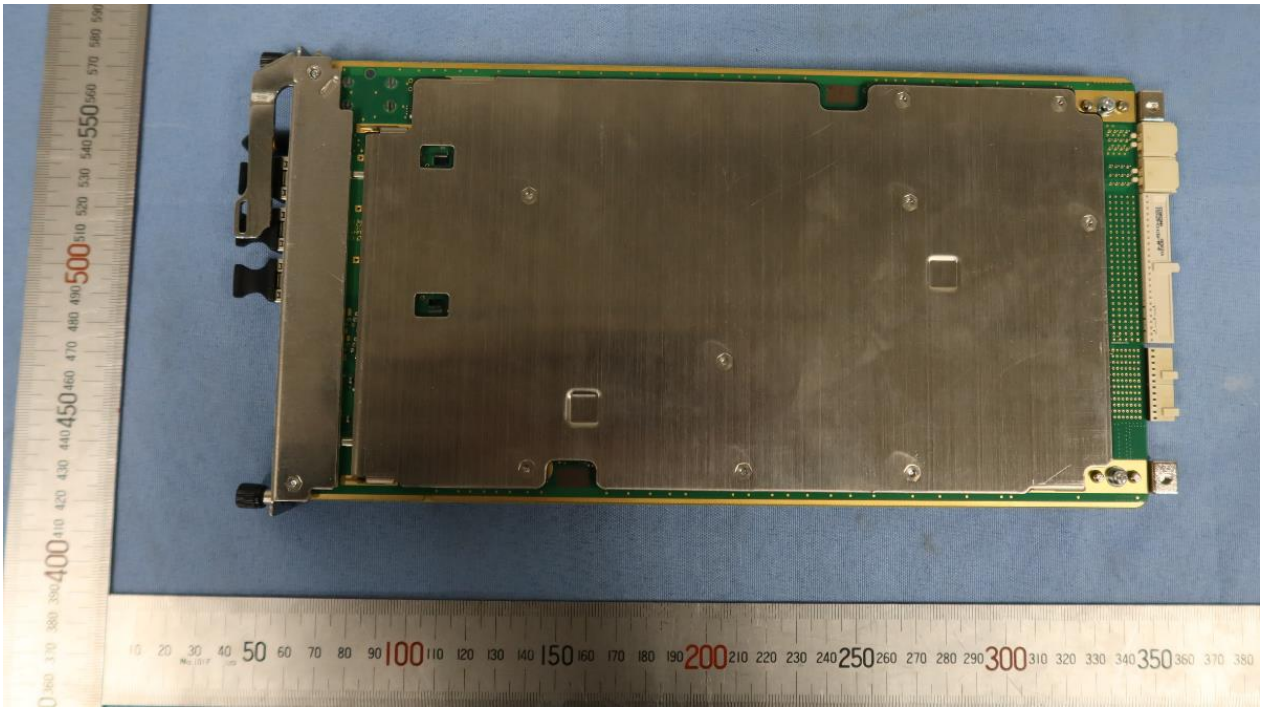


Photo-115, Top view of WD2MUBBPg1a/ WD2NUBBPg1a / WD2PUBBPg1a board

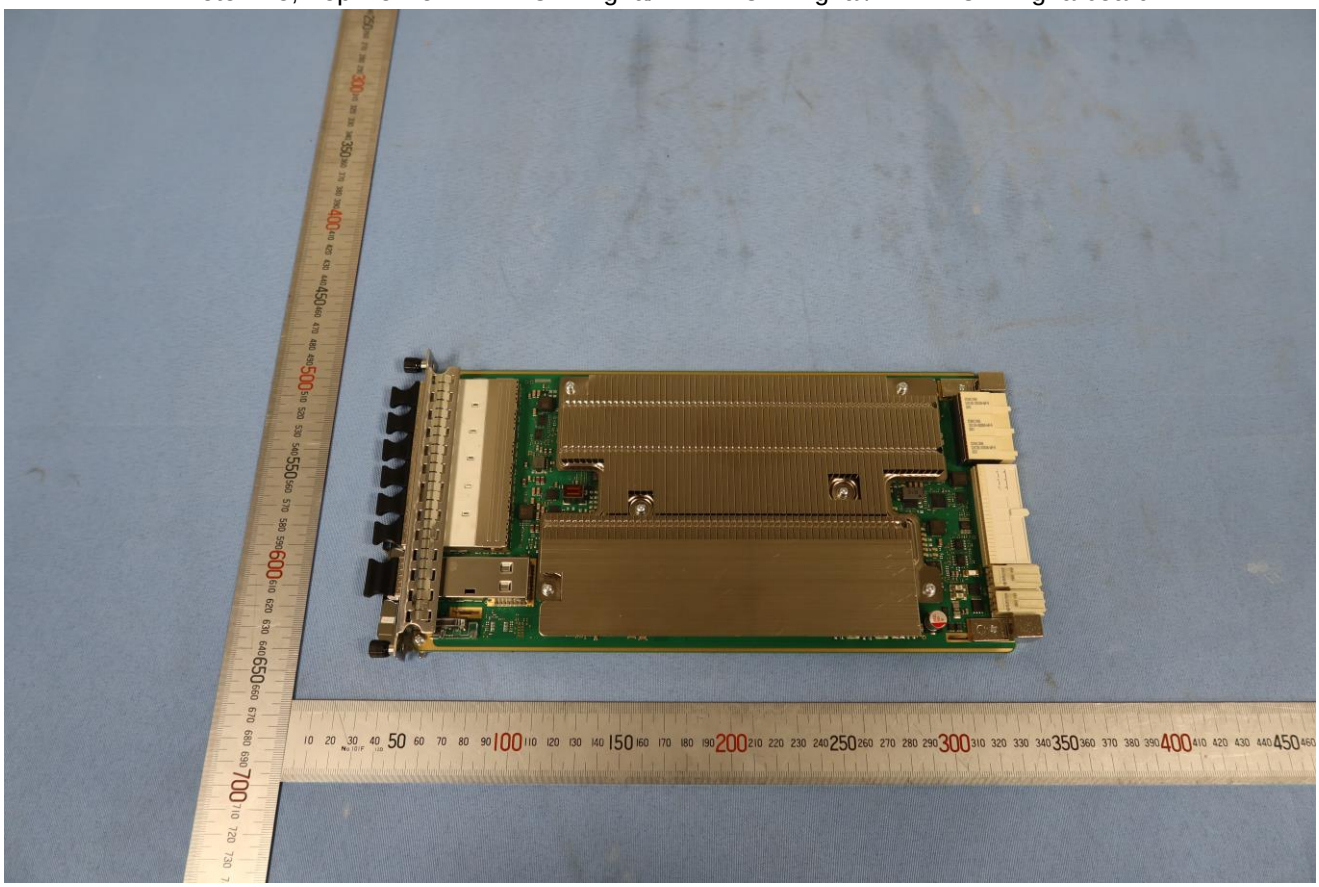


Photo-116, Bottom view of WD2MUBBPg1a/ WD2NUBBPg1a / WD2PUBBPg1a board

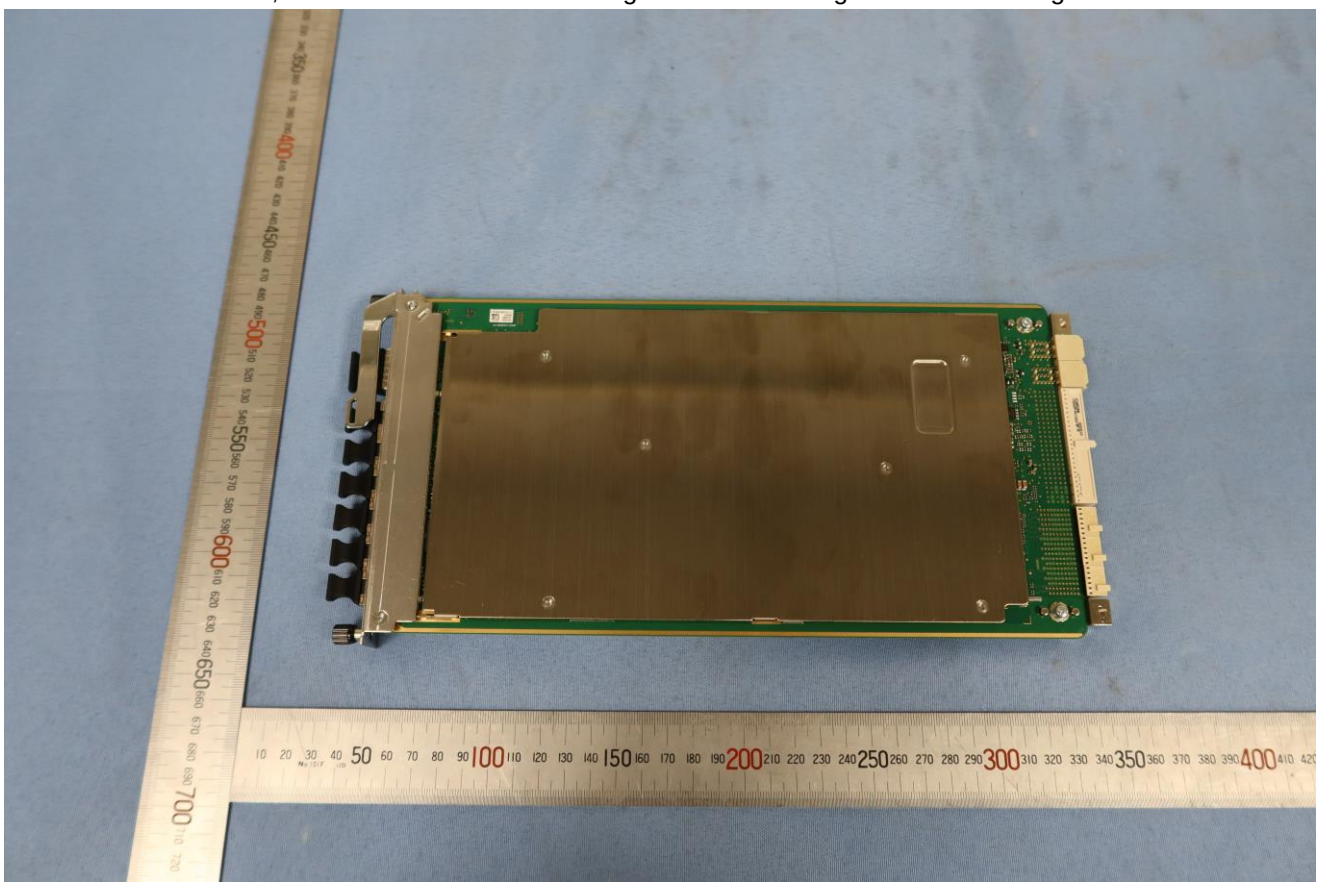


Photo-117, Top view of WD2MUBBPg2/ WD2NUBBPg2/ WD2PUBBPg2 board

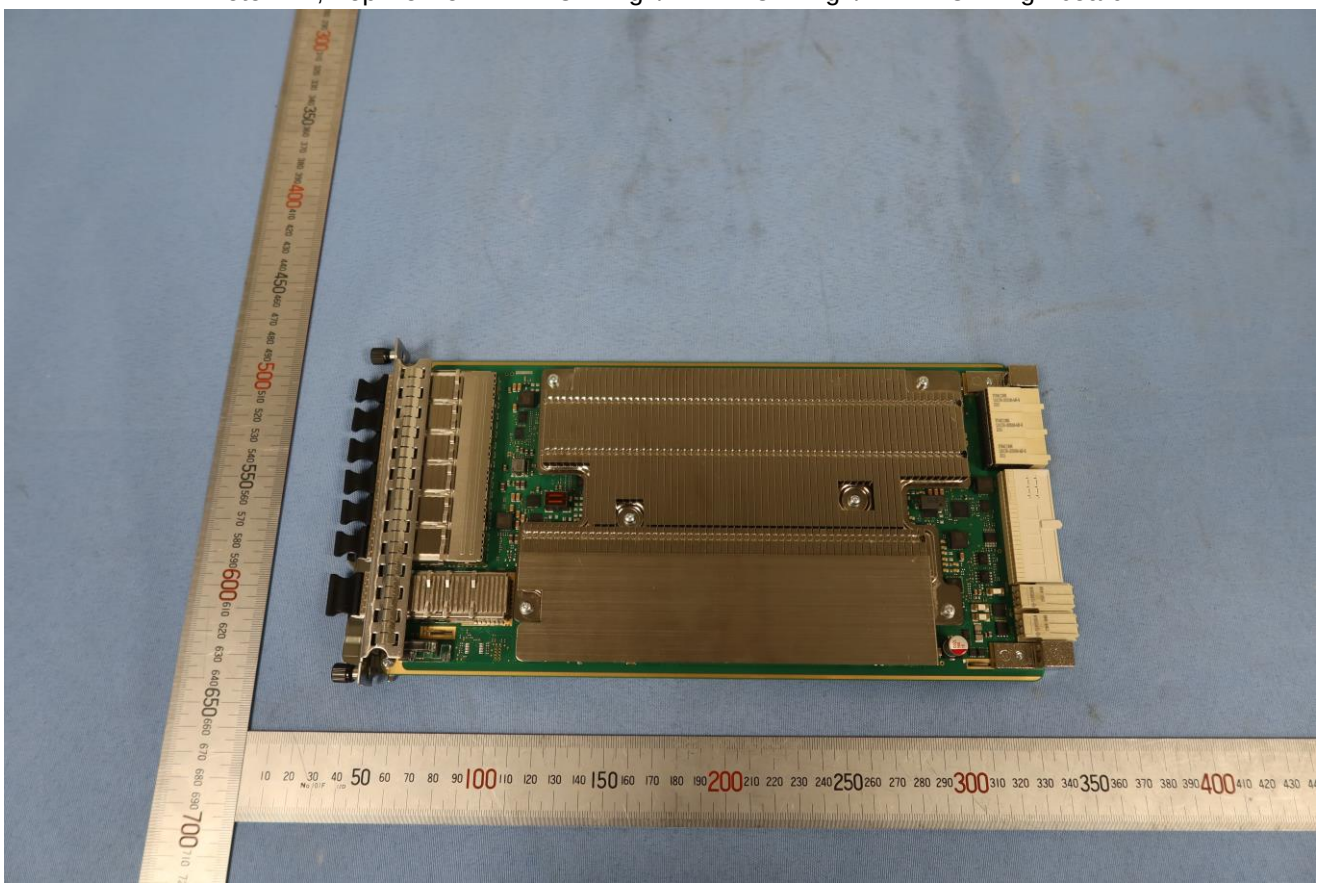


Photo-118, Bottom view of WD2MUBBPg2/ WD2NUBBPg2/ WD2PUBBPg2 board

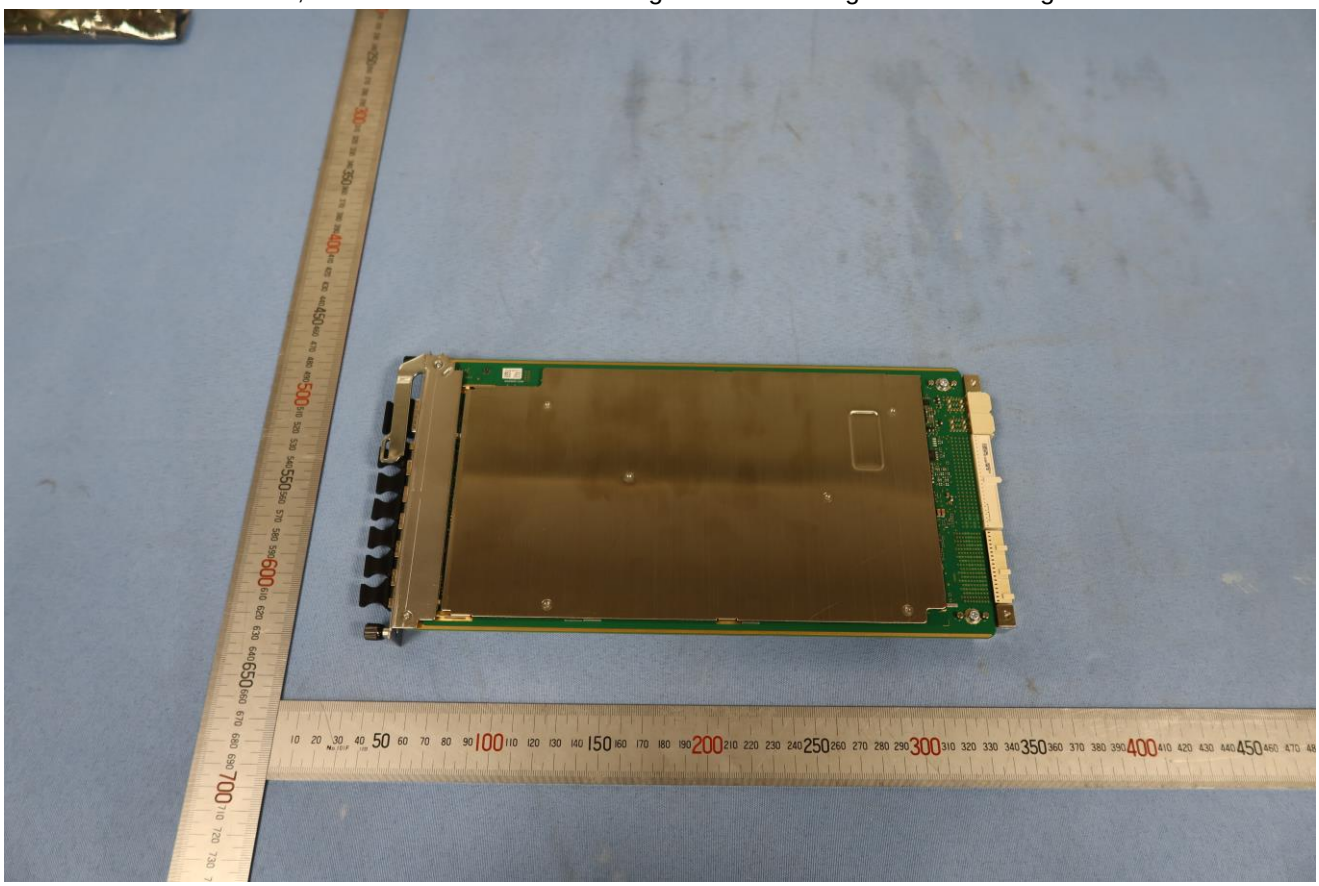


Photo-119,Top view of WD2MUBBPg2a/ WD2NUBBPg2a / WD2PUBBPg2a board

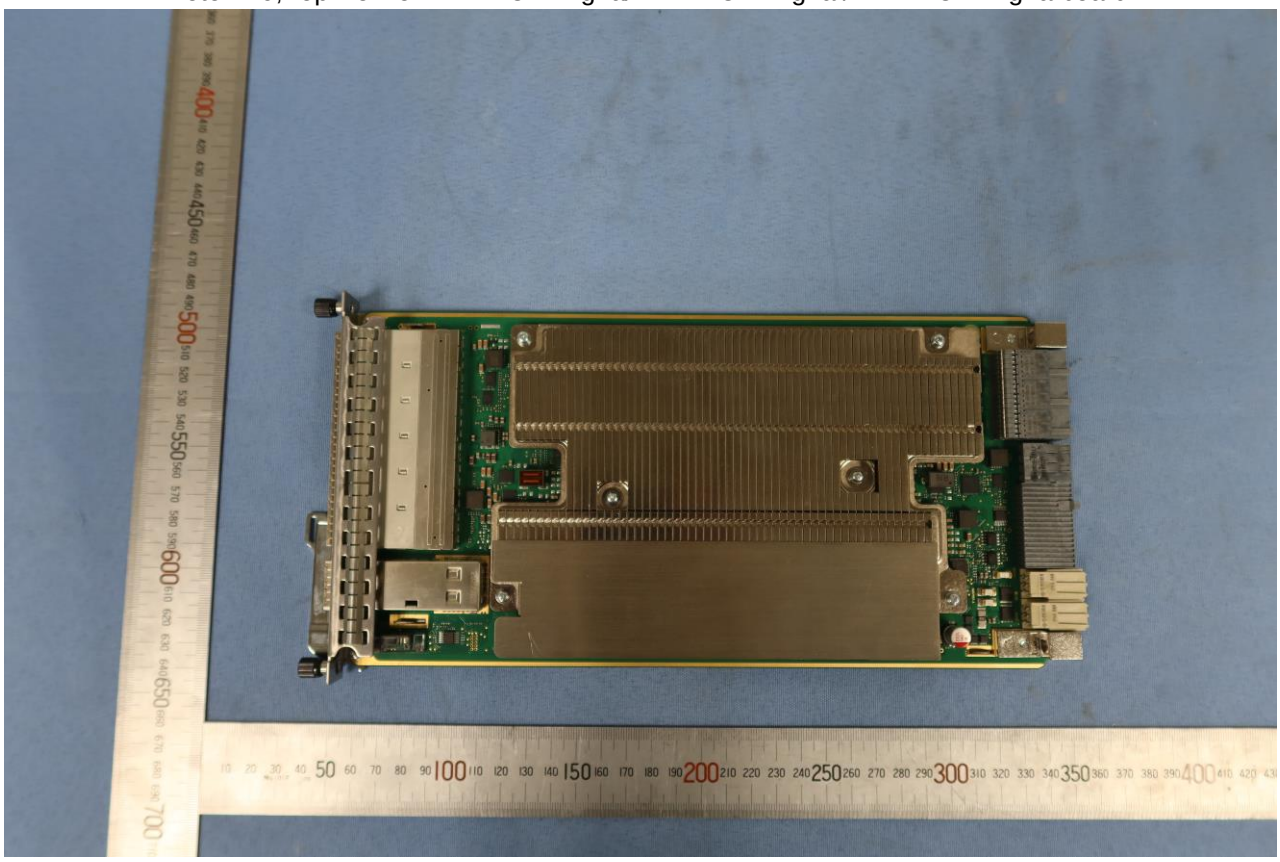


Photo-120,Bottom view of WD2MUBBPg2a/ WD2NUBBPg2a / WD2PUBBPg2a board

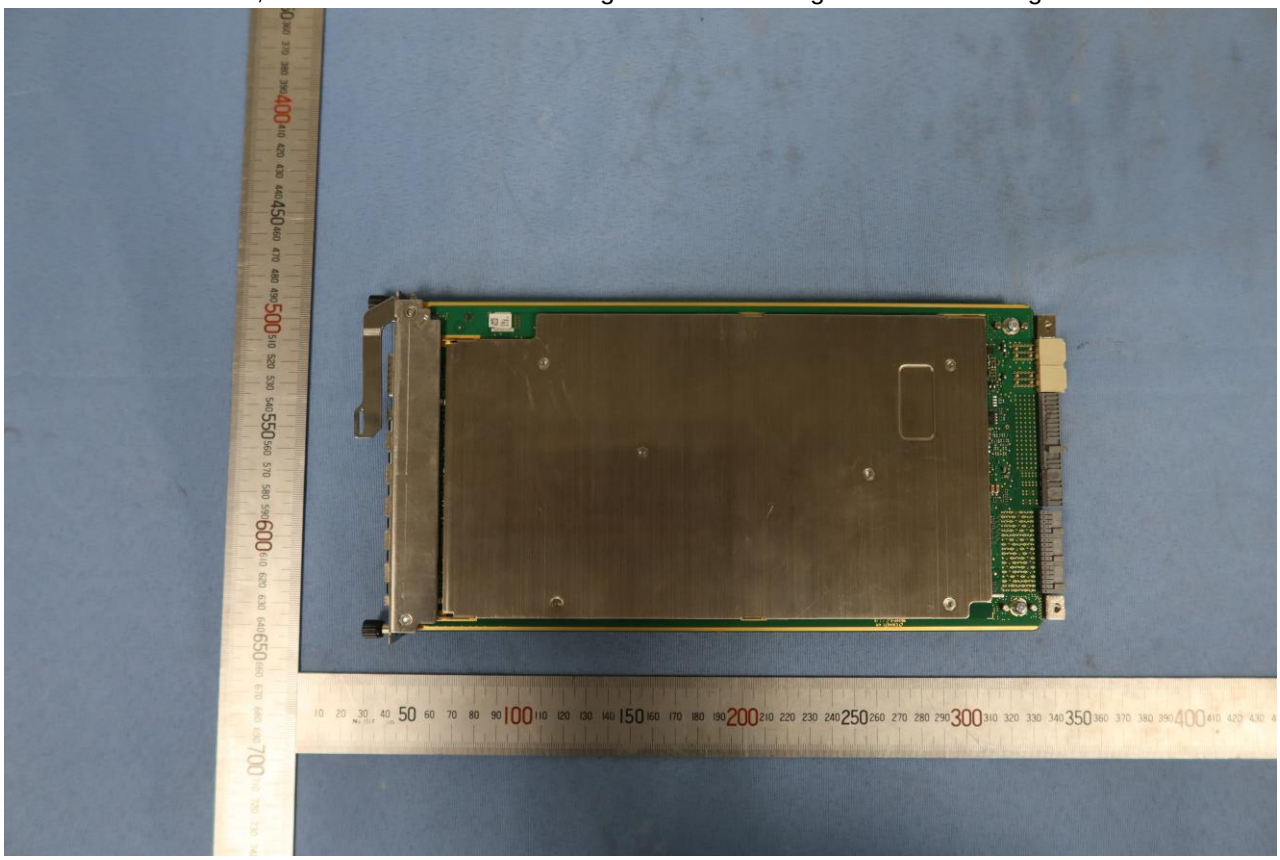


Photo-121, Top view of WD28UMPTb4/ WD29UMPTb4 board

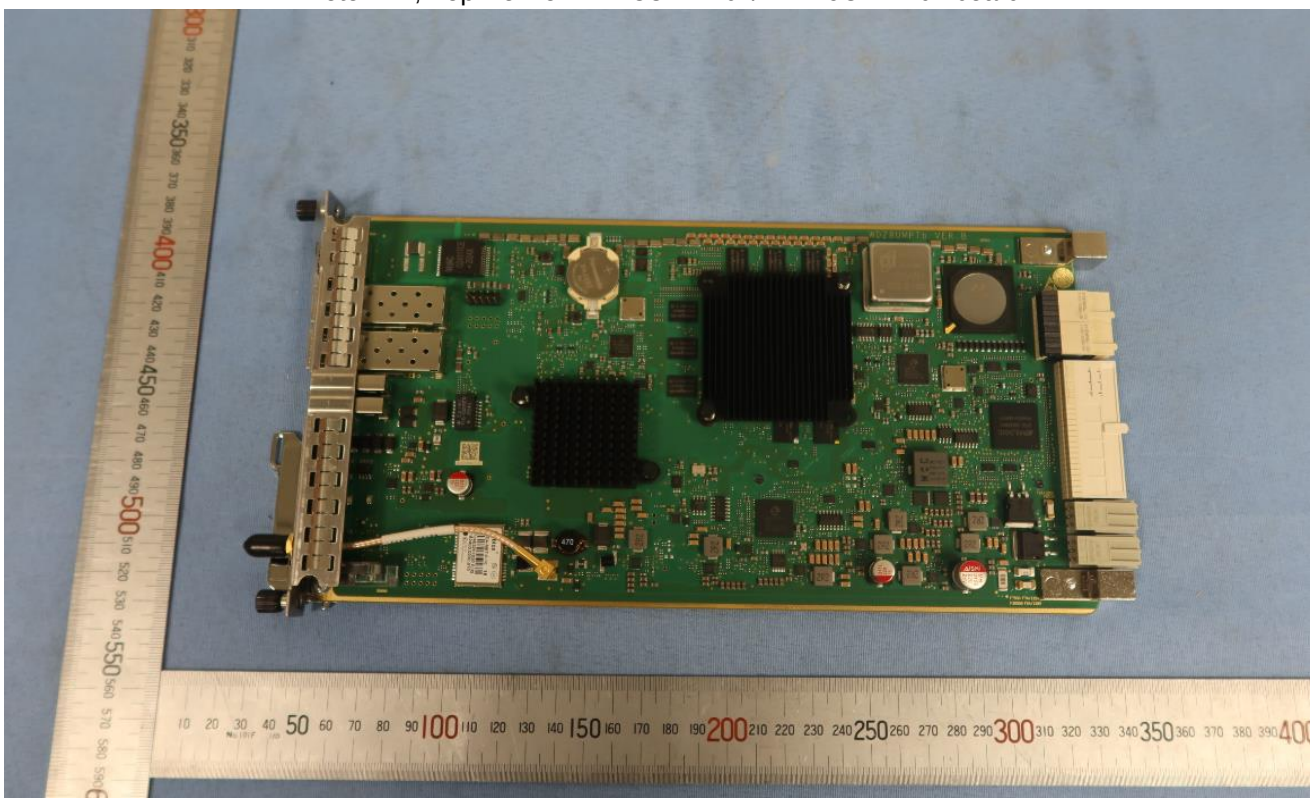


Photo-122, Bottom view of WD28UMPTb4/ WD29UMPTb4 board

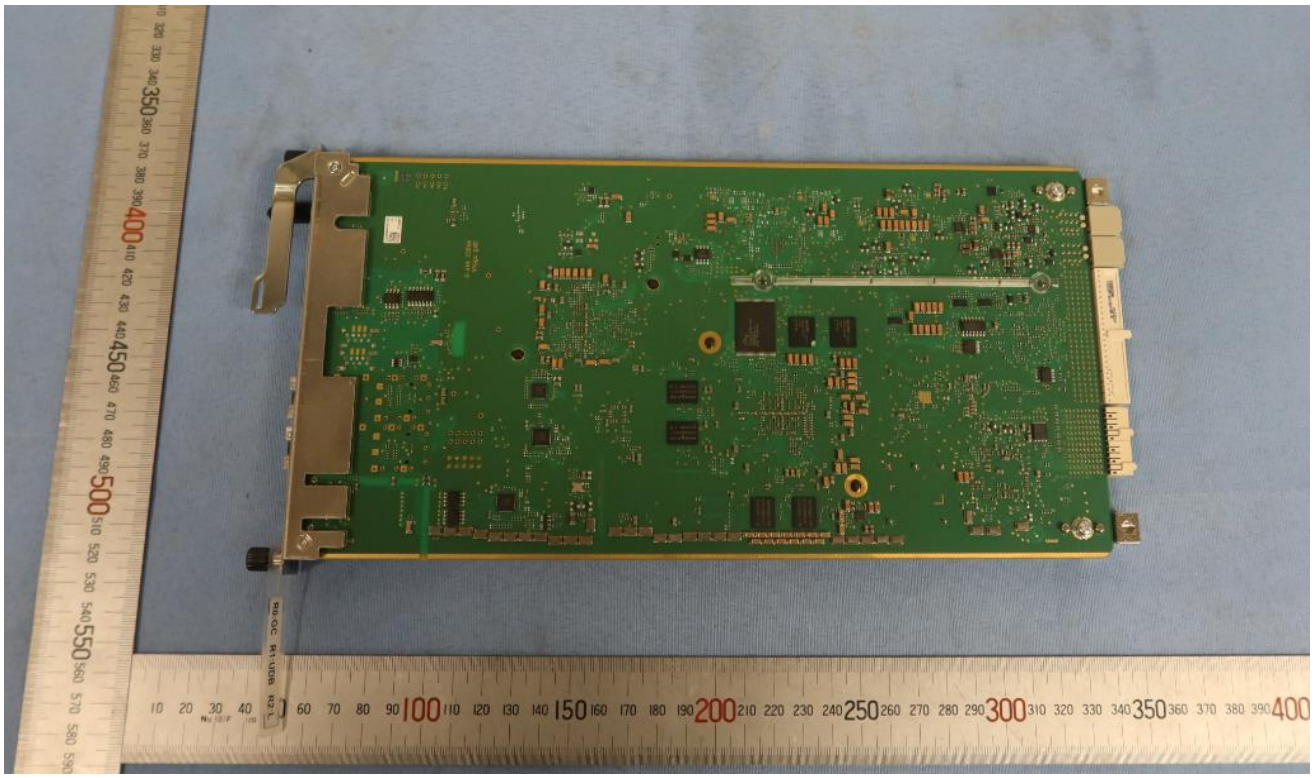


Photo-123, Top view of WD2YUBBPg2a, WD2LUBBPg2a, WD2KUBBPg2a, WD2OUBBPg2a, WD2IUBBPg2a, WD2CUBBPg2a board

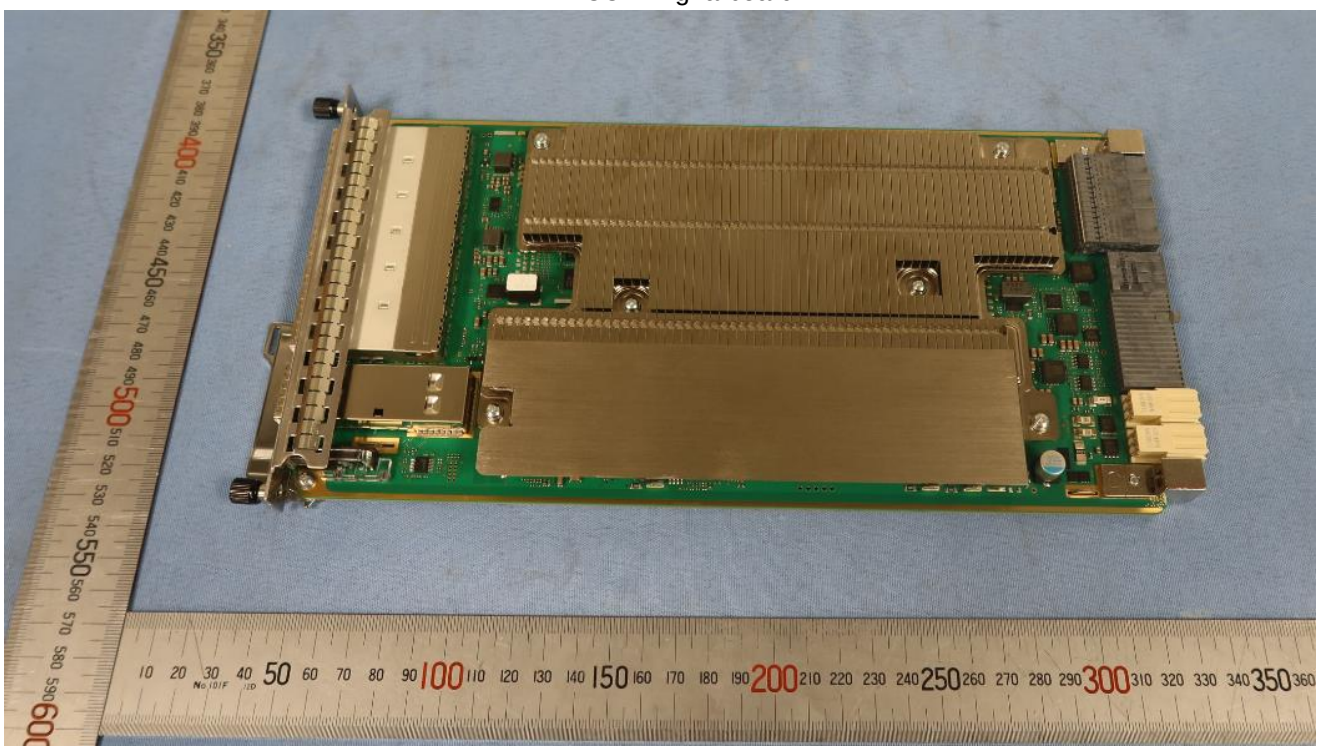


Photo-124, Bottom view of WD2YUBBPg2a, WD2LUBBPg2a, WD2KUBBPg2a, WD2OUBBPg2a, WD2IUBBPg2a, WD2CUBBPg2a board

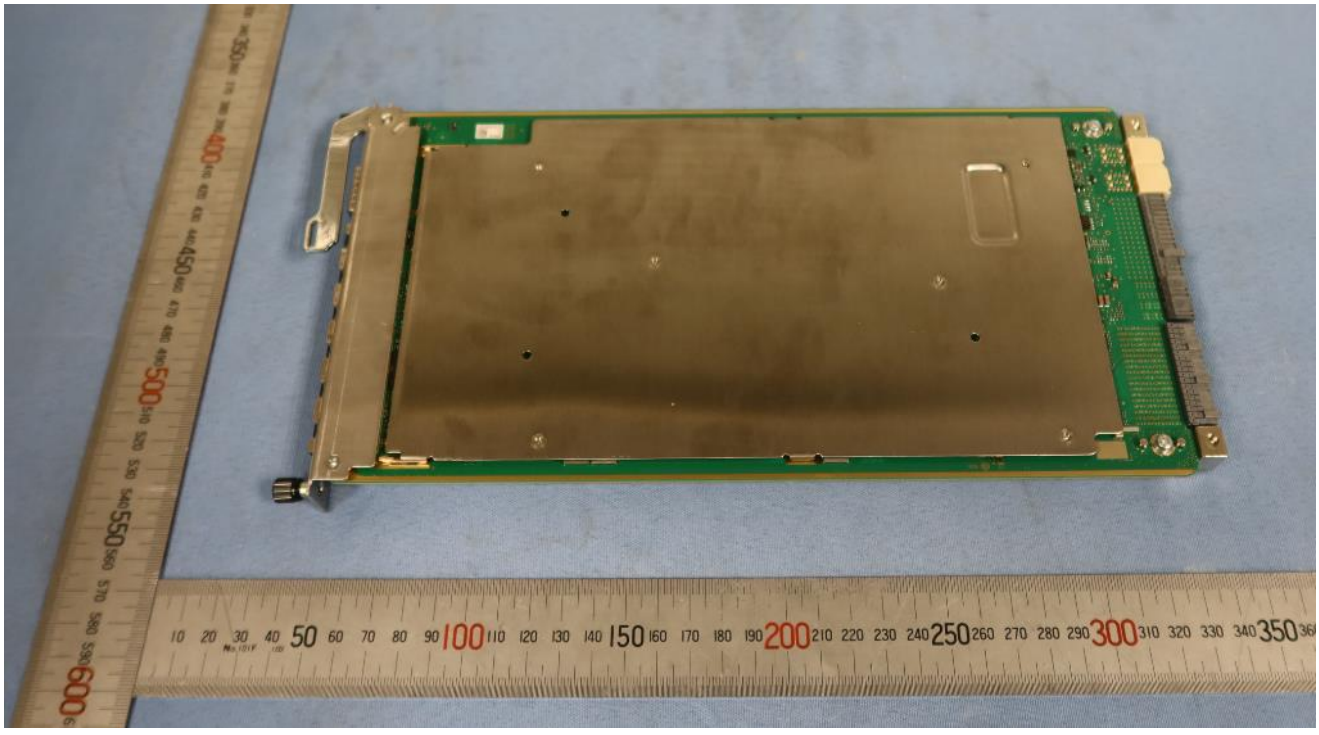


Photo-125, Top view of WD2DUMPTg1, WD2DUMPTg2, WD2DUMPTg3, WD2DUMPTg5, WD2EUMPTg5 board

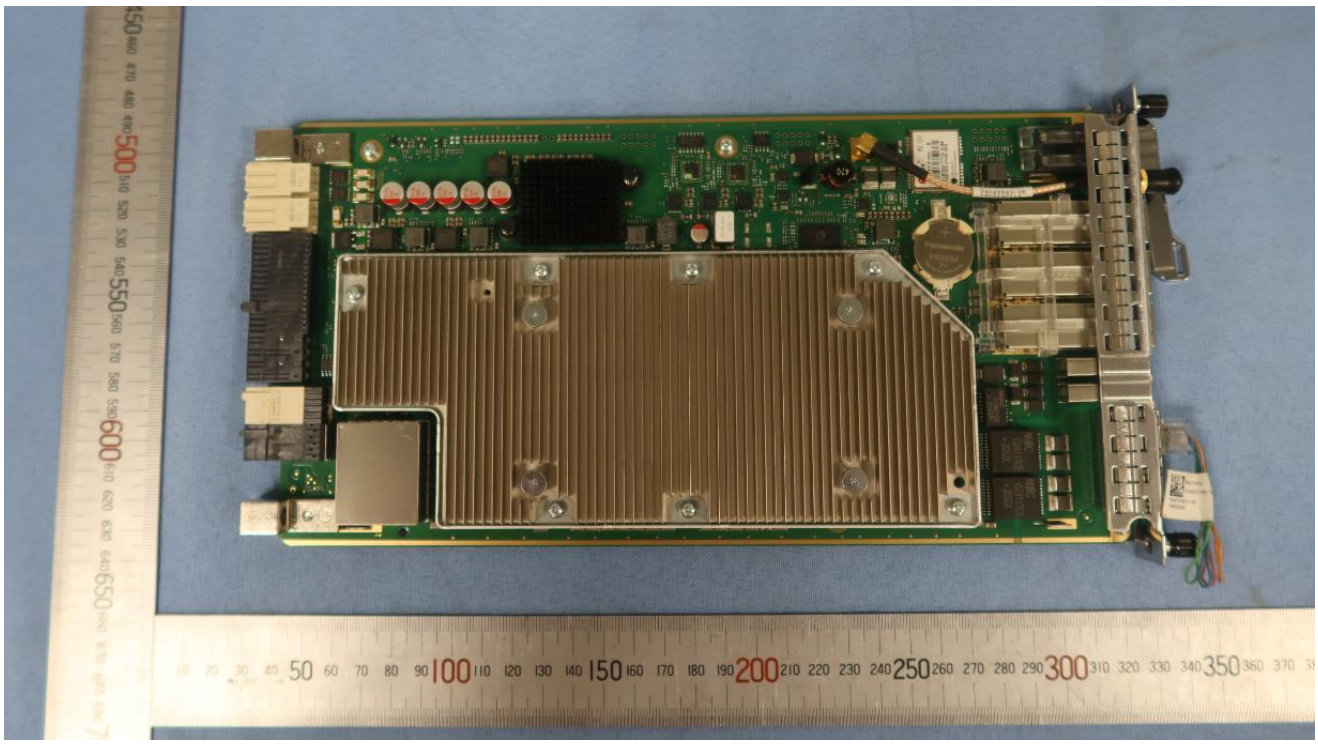
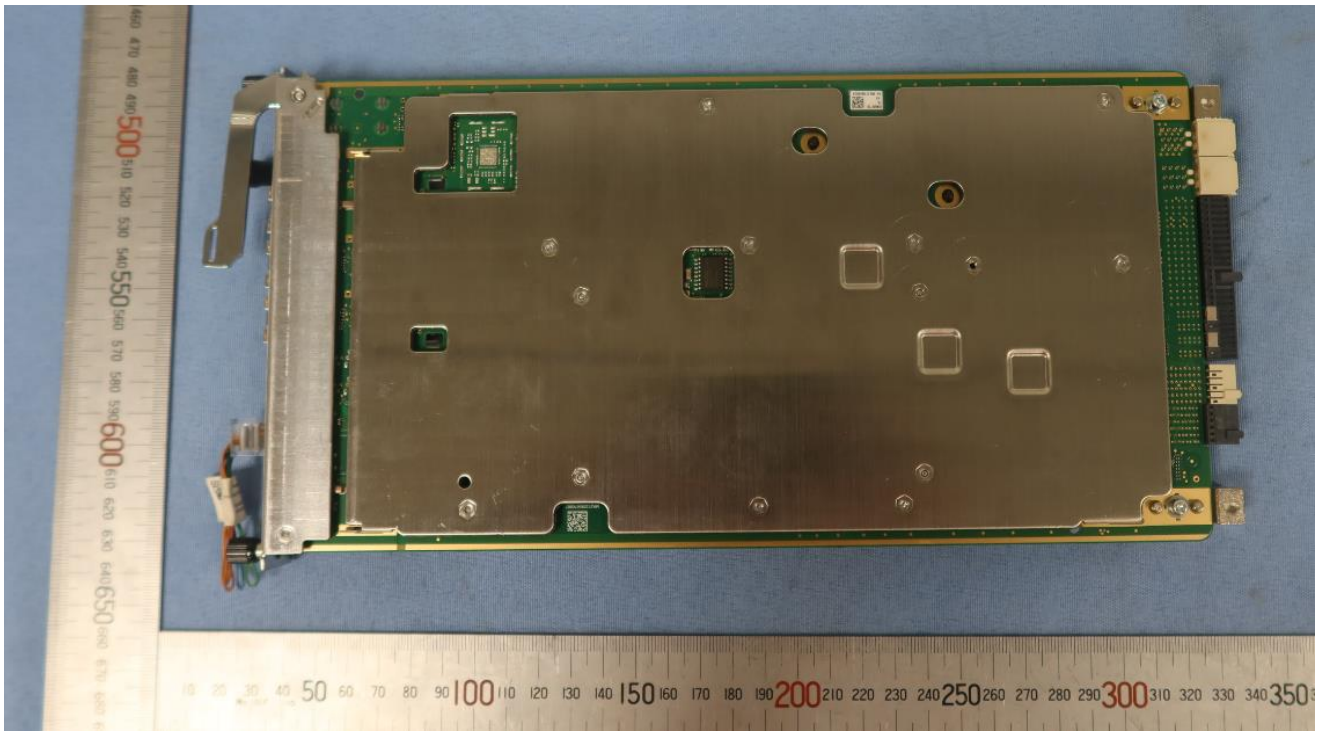


Photo-126, Bottom view of WD2DUMPTg1, WD2DUMPTg2, WD2DUMPTg3, WD2DUMPTg5, WD2EUMPTg5 board



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